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ADDRESS

SOME PROBLEMS IN SANITARY SCIENCE

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When I was asked by the President of the Michigan State Medical Society to make the address at this meeting and to speak upon some phase of the great subject of Public Hygiene, I responded gladly and without the slightest hesitation, because I considered it a rare privilege to be allowed to discuss these problems at a meeting of this kind. I have always held the opinion that nothing is so necessary to the success of public health work as the hearty co-operation of the medical profession and the thinking people, and it is for this reason that I consider myself fortunate in having been given this opportunity of aiding the cause of public health work in the State of Michigan by discussing some of its problems before you this evening.

Conservation has become a much used and, to some extent, perhaps, an abused word within recent years. It has become the title of societies, national, state and local; it is the topic of discussion in many gatherings and conventions; it is used as the slogan of political factions, and yet, in but few instances, is the term used with reference to life and health. The conservation of our forests, our mines, our waterways and other natural resources is of importance, but the conservation of public health and life is certainly of the utmost importance.

The Orientals believed in fatalism, and this idea spread all over the world, but it has long since given way, and people all over the civilized world are realizing more and more that life may be prolonged and health may be preserved by the care and attention we give it. It is not many years since hygiene has become an established and organized science, but in the comparatively few years of its existence, it has made more progress and real advance than any other branch of the general science of medicine. One of the first facts that became apparent to workers in this field was that certain diseases were communicable, and that they spread more or less rapidly after once they had become established in a community, and, as the science pro-

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gressed, the exact methods of the spread of various communicable diseases have been determined. Bacteriology has, of course, been the sister science, without which hygiene could not have advanced with the giant paces that have marked its course onward, but physiology, chemistry, physics and engineering are all aids in the progress of this work.

One of the first great advances in the field of preventive medicine was the discovery and introduction of vaccination, and the results of this wonderful discovery are so well known to all of you that it is unnecessary to repeat them here. Then came the introduction of isolation and disinfection as general methods of restricting all diseases that were considered communicable. With the discovery of antitoxin came a further death blow to diphtheria, and its virulence and prevalence have been greatly reduced by the use of this most valuable remedy. Studies upon the cause of the spread of typhoid led to the conclusion that water-supplies had to be improved in some instances, milk supplies guarded in others, and special attention paid to cleanliness and disinfection in all cases and to protection against flies.

The spread of yellow fever and malaria has been successfully combatted by hygienic meaures since the dissemination of these diseases by mosquitos has been definitely established. The wonderful crusade against tuberculosis is one of the latest triumphs in the fight against communicable diseases, as is the campaign that is now being inaugurated against the spread of the venereal diseases, and so, one by one, these formidable enemies of human health and life, the dangerous communicable diseases, are being driven to the background. Not only are specific regulations enforced against the given disease, but general measures are adopted which have a tendency to stop the spread of all diseases, to promote health and prolong life. I refer now to the supervision of public water supplies, the regulation of milk and food supplies, the enforcement of plumbing and other sanitary laws, the disposal of waste, the abatement of nuisances of various kinds, notably the smoke and dust nuisances, the improvement in housing conditions, and the observation of various other rules and regulations which have a tendency to bring about the best results.

These are some of the problems that present themselves when we study the methods by which the most dangerous communicable diseases are spread, but we know that they are spread only to susceptible persons, and the ideal solution of the prevention of disease then would be to render all human beings immune or nonsusceptible to all infections. But is such a thing possible, and if so, why have we not reached this enviable state long since? It can be done positively, as we know, in the case of individual diseases such as smallpox and diphtheria, but, unfortunately, we have neither a vaccine nor a serum as yet the use of which will render us generally immune. However, much can be done to render the human being less susceptible to disease, if not entirely immune, by building up, so to speak, the physical organism. Let us begin with the baby. What is going to be the result of the national campaign for the prevention of infant mortality? The establishment of mothers' clinics and milk depots in various cities, the formation of mothers' classes for instruction in the hygiene of the infant, are going to accomplish what? Directly and primarily a reduction in the unnecessarily large infant mortality, but, secondarily, and perhaps incidentally, something more far-reaching. They are going to give the coming generation a better start in the battle against disease, in the resistance of infection. The

baby of the future is going to be better equipped to resist diphtheria, scarlet fever, measles, whooping-cough and the other so-called children's diseases, and the fight for a lessened infant mortality is going to be successful to the extent of a lessened mortality of all children under five years of age. Then what? Then comes the dreaded "school-age." Let us give the man and woman of the next and following generations another uplift during this period of life, by paying more attention to the physical being. Let us remember that proper food, together with plenty of sleep and a good supply of fresh air, mixed with some play, are the best tissue-builders and brain-developers that can be given a young child. Most parents are altogether too eager to send their little ones to school. In the majority of our schools the daily and also the yearly sessions are altogether too long; too much time is devoted to work and not enough to play. The movement to provide public playgrounds will do much to produce immunity in our children, and I congratulate those who have so successfully pushed this movement in this and other states. In my judgment, no child under ten years, yes, under twelve years of age, should be confined in the school-room more than three hours a day, and at no time should the daily school sessions exceed four hours. It has been abundantly proven that with such school sessions the work accomplished by the pupils is better than with longer sessions, and the effect upon the health and the resisting power of the child will certainly be less disastrous. But now comes the cry from the educators and members of school boards, "The people want their children in school, they do not want them loafing about." Good, let us use the playgrounds. Let us have more of them, and let one set of children use them under proper supervision in the forenoon, when the rest of the children are in school, and in the afternoon let us reverse the program. Boards of Health are doing all in their power to improve the sanitation of school buildings, and the buildings of to-day are much better than those of yesterday, but the air of the playground is much better than that of the best ventilated school-room, and why not give our growing children the benefit of the best? I desire to appeal to the members of this State Medical Society to take this suggestion under consideration and work for shorter school hours and less school drudgery. I dare say there is not a physician in this hall who has not had among his patients every year, and especially in the spring of the year, children, boys and girls, young men and young women, suffering from brain fag, nervous wrecks, the result of too much school. This is not as it should be. This is not the way to render our future men and women less susceptible to disease.

In this connection allow me to say a word with reference to the Medical Inspection of Schools. This system, in vogue in nearly all of the large cities in the country and in many of the smaller ones, is doing much to build up our boys and girls. The primary object of medical school inspection was to exclude cases of contagious diseases from school and protect the pupils against these diseases, but the work has progressed. Now, while its primary object is not lost sight of, more attention is being paid to the correction of physical defects of the child. The eyes, the nose, the throat, the teeth, the spine, in fact, the entire physical being, is examined and, when any defects are found, a recommendation is made to the parents that the same be corrected. In some cities, special clinics have been established for the correction of these defects in poor children and much good has been accomplished. A corps of visiting nurses is employed as an aid to physician examiners in the schools, and they are indeed a valuable adjunct to the work.

Many parents do not see the need of the correction of physical defects in their child until the matter has been explained to them by the nurse. As far as school life is concerned, then, we must remember that the mental capacity is taxed during this period and that the physical being is often neglected. Good air in the school-rooms, shorter hours for work and more time for play, a proper system of physical training and the correction of such physical defects as may exist, are necessary for the production of the best results.

Now we have reared our baby properly, we have carried him through the school age and he has arrived at manhood, what else can be done to keep up the resistance that we have looked after so carefully? The man or woman must now guard his or her own health. This is the age of preventive and not of curative medicine. I do not mean that the doctor—the medical adviser—has become superfluous; not at all, but it has become his duty to keep his clients well rather than to restore them to health. The family doctor should be called in at stated intervals to examine his families, and ascertain whether they are in need of advice as to their mode of living and their personal hygiene. It has become quite customary for the majority of people to go to their dentist before they have the toothache, before their teeth are entirely decayed. Why not place as much confidence in your doctor? Why not have your eyes examined before they become practically useless, why not have the doctor ascertain the condition of your lungs before you develop an advanced case of tuberculosis, why not prevent an attack of uremic poisoning by a periodical examination of your urine? Many diseases can be avoided in this way, and your resisting power to other diseases will be maintained by your being restored to perfect health.

To accomplish all of this, one other reform is necessary, one other problem presents itself. I have said that the physician of the future will be the practitioner of preventive rather than of curative medicine. The truth of this statement is generally conceded, but I do not believe that it is generally realized how close at hand this practice of preventive medicine is. The people are demanding it to-day. Ten or even five years ago, if a person had walked into the office of one of the physicians here present and had said, "Doctor, I wish you would examine me and see whether there is anything the matter with me," he would have been considered a hypochondriac; nowadays such an incident is almost a daily occurrence. It behooves the medical colleges, therefore, to wake up. Our physicians are hardly prepared for this new demand. So long as physicians refuse to report cases of communicable disease to their local health officer, so long as physicians refuse to do all in their power to aid in the prevention of disease, it is safe to say that either their education in this respect has been sadly neglected or they are entirely unfit for the practice of medicine and should be disbarred, and the time is at hand when the people, the physicians' patrons, will not sanction such conduct. Again, it is time for medical colleges to improve their instruction in preventive medicine so extensively that they will not only prepare all of their students for the future, dare I say the present practice of medicine, but that they will also prepare those who may choose such a course, for public health positions of all kinds. Last year it was my privilege and good fortune to listen to the Annual President's Address of the Wisconsin State Medical Society, delivered by my good friend, Dr. Gilbert E. Seaman, of Milwaukee, and from which I quote what he has to say along these same lines: "The subject is too vast for me to here attempt the elaboration of such a course; but I

would point to the fact that no such school as is here suggested is now in existence in this country, although the University of Pennsylvania and Columbia University and others have recently made a start in this direction by the establishment of more comprehensive courses of lectures on hygiene and public health; and I understand that there is in contemplation at Columbia the elaboration of a complete course in sanitary science. By way of contrast, I would say that such a course, leading to the degree of doctor of public health, is given at Oxford, Cambridge, the University of London and other universities in Great Britain; and the highly trained public health officer is a special feature of English professional life. And I have the authority of Dr. Osler for the statement that at the present time in England the man who has been trained in public health in the courses which lead to the D. P. H. degree is the only man who is thought of in connection with the most important public health positions. This is surely as it should be, for the public health is too sacred a consideration to be subjected to the degrading and dangerous touch of partisan politics." Let me add that Harvard University has this fall included in its curriculum a course leading to the degree of D. P. H.

With all of my optimism as to the stamping out of communicable disease by the means outlined above, I am aware of the fact that there will for some time be numerous cases of these diseases in our midst, and that there will probably always be some cases. If so, the problem presents itself, how shall we best care for these cases so that they will not infect others and so that they may themselves recover. I anticipate the answer, by isolation and disinfection. But how is this best accomplished? By removing all of the cases to a properly equipped and properly managed hospital as early as possible. There can be no doubt that this is the only method to ensure rigid isolation and satisfactory disinfection. Isolation in a private house is almost always inadequate, and disinfection can not always be carried out. In a well-regulated hospital both of these preventive measures are rigidly enforced. As to the advantage of hospital treatment over home treatment, I need only cite the figures as they appear in Detroit for the past year for cases of diphtheria and scarlet fever. During the year there were treated at home 1638 cases of scarlet fever and 895 cases of diphtheria. Of the former 105 died, making a mortality rate of 6.4%; of the latter 85 died, or a mortality rate of 9.5%. At Harper Hospital there were treated 195 cases of scarlet fever, of which 6 died, giving a mortality rate of 3%, and 227 cases of diphtheria, of which 7 died, a mortality rate of slightly over 3%. If it had been possible to treat all of the cases of these two diseases at the hospital, at the same rate of difference in results, there would have been saved during the year 113 lives from scarlet fever and diphtheria alone. It is, of course, impossible to compute the number of cases that were prevented by the early removal of cases to the hospital. Suffice it to say that whenever we removed a case of scarlet fever or diphtheria to the hospital early, we almost never had a second case in the house, but when, on the other hand, a case was allowed to remain at home, we very frequently had additional cases.

These are but a few of the problems presented by sanitary science, but it is evident that the solution of all of them must be reached by a campaign of education. The education should begin with the medical profession and be extended to the people. In this way and in this way only will a "public health conscience" be created which will result in a further reduction of the general mortality rate and in the conservation of the public health.

ORIGINAL ARTICLES

A SYMPOSIUM ON OBSTETRICAL ANESTHESIA

SCOPOLAMINE AND MORPHINE*

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The question of anesthesia in obstetrics is a most important one. Ever since the discovery of ether and chloroform early in the last century, various drugs and chemicals have been tried as a means of alleviating the pains incident to childbirth. At the present time, however, no acceptable substitute for chloroform and ether has been discovered. In 1900, Schneiderlin used a combination of scopolamine and morphia, injected hypodermically, in place of the usual inhalation anesthesia, in surgical operations. His results were so satisfactory that a continuance of this combination was deemed advisable. Schneiderlin's work was taken up by others and his results proved.

Perhaps it would be better, before going further into a consideration of this subject, to give a short description of the two drugs that are used to produce the anesthesia.

Scopolamine ($C_{17}H_{21}NO_4$) belongs to the atropine series. It decomposes into trophic acid and pseudotropine, sometimes called oscine or scopoline. Scopolamine or hyoscine has the same action upon the peripheral nerve ends as atropine, i. e., it dilates the pupil. Upon the central nervous system its action is opposite to that of atropine; it inhibits rather than stimulates. Otherwise the action of scopolamine upon the human system is the same as atropine except that its action is produced more quickly and for a shorter time.

Morphia exerts an analgesic and a hypnotic action in man. The respiration is slowed and the breathing superficial. The pupils are contracted. Morphia paralyzes the sensory nerves. The heart and blood-vessels are not as a rule affected and the blood pressure remains unchanged.

The combination of scopolamine and morphia causes an increase of the hypnotic and the analgesic action, without the deleterious effects when either drug is used alone. This is to be explained by the fact that they act antagonistically to a certain degree.

This combination has been largely used as a surgical anesthetic, but it was not until 1902 that Steinbuchel tried it as an obstetrical anesthetic. The excellent results this author obtained led others to try the method, so that at present the literature is rich with case reports upon the use of scopolamine and morphia as an obstetrical anesthetic.

Steinbuchel reported twenty cases. His technique was to inject from 0.3 to 0.4 mg.

*Part of a Symposium on Obstetrical Anesthesia, read at the Forty-fifth Annual Meeting of the Michigan State Medical Society at Bay City, September 28, 29, 1910.

(gr. 1-200—1-150) scopolamine and 10 mg. (gr. 1-6) morphia. The second injection followed in one and one-half to two hours if the action of the first dose was incomplete or if no action resulted. His results were good analgesia in sixteen cases, medium in three, and no result in one case. In twelve cases the character of the pains was unchanged, twice the pains became weaker, and in six cases the interval between pains was longer but the pains were much stronger. The third stage of labor was undisturbed. He concludes as follows:

1. That we are not only authorized but in duty bound to lessen the labor pains of an intensely suffering lying-in patient.

2. That we can attain this object by numerous drugs, but that most of them will produce disastrous results for both mother and child.

3. That we have in scopolamine 0.3 to 0.4 mg. and in morphia 10 mg. used in combination and injected subcutaneously, a procedure which is superior to other drugs in that it does not produce harmful results.

Weingarten used the method of Steinbuchel and reported thirty-nine cases with excellent results to both mother and child. All perineal ruptures were repaired painlessly and without further anesthesia.

Wartapetian tried the scopolamine-morphia anesthesia on twenty cases. His results compare very favorably with the two authors just mentioned, but he found it necessary to use ether when operative procedures were indicated. In ten cases, the child presented a picture of a mild asphyxia. Wartapetian considered the morphia as the cause of this asphyxia, and he suggested a modification of the method, that in repeated injections scopolamine alone be given or that the morphia be used in smaller doses.

Ziffer, after mentioning the many dangers that follow the use of ether, chloroform and morphia, reports his results in thirty-one cases with scopolamine-morphia anesthesia. He says the method is not as entirely free from objections as one would be led to think from Steinbuchel's article. He often used as many as three injections, and mentioned that the method is very simple and does not keep the accoucheur "chained" to the bed of the lying-in patient as ether and chloroform do. After four or five hours, he found the patients needed a second injection, also further that ether or chloroform could be substituted at any time without apparent danger to the mother or child.

Of all the research workers who have done original work upon this important question, Gauss probably stands alone. This author carefully observed the effects of scopolamine and morphia as an obstetrical anesthetic upon one thousand cases. He gave the name of "artificial twilight sleep" to the method. The former observers tried to lessen the normal labor pains, without influencing the physiological course of the delivery and without injury to the child. Gauss went a step further, and strove not only for a reduction of the labor pains but also for a completely painless delivery. This he accomplished not by having the patient completely anesthetized, but by putting her in a state of disturbed consciousness, which left behind no remembrance of a painful delivery. The patient was in a condition of half-wakefulness, reacted when spoken to or to external stimuli, was conscious of her surroundings, groaned during the pains and after a short time remembered nothing of what had but just occurred. Her face was flushed and she complained of dryness in her mouth. The pains were strong and regular. The patient bore down when summoned to do so. Kronig, in speaking of the work of Gauss, says that the kernel of the method is that the patient is just in a condition in which she can easily "perceive" what is going on

around her, but that she can no longer "comprehend" it.

The method that Gauss employs is as follows: As soon as the interval between the pains reaches four to five minutes and their duration is one-half minute, 0.3 to 0.45 mg. scopolamine and 10 mg. morphia are injected. Then forty-five minutes to one hour later, when the patient shows that she can for thirty-five minutes remember some object that is shown her, a second injection follows of 0.15 mg. to 0.3 mg. scopolamine but without the morphia. After another test as to the patient's power of remembrance, a third injection of scopolamine may follow, providing the remembrance test is positive. Gauss says a repetition of the so-called "twilight sleep" may follow ad libitum and last several days, without danger to the mother and child. He mentions one case where the patient was in "twilight sleep" for fifty-seven hours, in which 3.75 mg. scopolamine and 30 mg. morphia were used. Mother and child had no bad after-effects. In speaking of his method Gauss says, "Our technique is complicated because it makes exceptional demands of the accoucheur and his assistants, and unusual because it is based upon a purely psychiatral foundation." His results in the one thousand cases are interesting. Maternal and fetal mortality was nil. In 76.2% no labor pain was present, in 18.2%, it was reduced, and in 5.6% there was no result. (See table.)

After this work of Gauss was reported, the question of scopolamine-morphia anesthesia in obstetrics was taken up in many other clinics and with widely divergent results. (See table.)

It would be interesting and no doubt profitable to follow up this important question, in the hands of other research workers, but time will not permit.

I had hoped at this time to present some of my own results with this new obstetrical anesthetic, but my personal acquaintance is as yet so slight that it must be left for a later article.

In conclusion I can do no better than repeat the conclusions of Björkenheim, from whose article much of the present paper was derived.

He concludes as follows, agreeing in the main with Bass:

1. The labor pains, especially the severe expulsive ones, are, in most cases, relieved.

Reporter	Number of Cases	Good Result	Pains Less Severe	No Result	Pains Weaker	Pains Stronger	Weak Expulsive Pains	Asphyxiated	Oligopnea	Infant Mortality
		%	%	%	%	%	%	%	%	%
v. Steinbüchel	20	80	15	5	10	.....	.....	5	.....	.....
Weingarten	39	84.6	12.9	2.5	.....	.....	.....	8.8	50	.....
Wartapetian	20	80	.....	20	.....	.....	.....	.....	.....	.....
Puschnig	62	91.9	1.6	6.5	.....	.....	.....	.....	.....	.....
Gauss	1000	76.2	18.2	5.6	16	7.2	3.5	9.6	18.1	.....
Hocheisen	100	61	21	18	36	.....	24	15	18	2
Lehmann	70	61.6	37	1.4	16.3	25	.....	13.3	10	.....
Preller	220	70	18	12	25	5–6	?	5	25	0.9
Bass	107	64.5	21.5	14	?	.....	8.4	3.77	8.4	0.9
Gminder	100	58	24	18	27	.....	?	23	.....	1
Bertino	400	45	.....	36	?	0.6	.....	?	?	.....
Steffen	300	45.8	35	19.2	38.3	.....	28.2	2.3	16	.....
Mayer	50	46	42	12	4	.....	?	2	6	2
Siewczynski	108	87.96	5.6	6.48	14.7	13.72	9.6	3.7	15.74	6.48
Fehling	64	27	.....	.....	.....	.....	.....	13.5	.....	.....
Ararffy	80	13.7	41.2	45.1	37.5	.....	26.2	8.64	3.7	2.5
Beruti	600	65	21.83	13.6	2.87	.....	5.27	5.14	16.94	1.14
Frigyesi	200	62.5	25	12.5	11	.....	2	2	15	.....
Björkenheim	50	48	26	26	22	12	6	13.5	1.9	1.9(?)

2. The expulsive pains, and still more often the pains themselves, are weakened. On the contrary, the third stage of labor is not noticeably influenced.

3. If the technique described by Gauss is carried out, the anesthesia is not, as a rule, dangerous for the mother.

4. Idiosyncrasy for scopolamine or appearance of weak labor pains is an indication that the anesthetic should be stopped.

5. Scopolamine-morphia does not always act indifferently to the child, in that death may result.

6. The anesthetic can be used in a clinic, and must be observed uninterruptedly by the physician.

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CHLOROFORM AND ETHER*

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In the last five years so much has been discovered and written regarding the injurious after-effects of chloroform anesthesia, that the question whether one is ever justified in using the drug for cases where it is possible to employ ether merits serious consideration. Gradually but surely chloroform is losing ground and ether is replacing it.

Perhaps most of us are agreed that ether is really much safer than chloroform for general and special surgery, but in obstetrics we nevertheless put our faith in the time-honored teaching that the parturient

*Part of a Symposium on Chloroform and Ether, read at the Forty-fifth Annual Meeting of the Michigan State Medical Society, Bay City, Sept. 28-29, 1910.

woman is immune to the dangers of chloroform anesthesia and may be given the drug with impunity.

But even in obstetrics some are questioning the safety of chloroform. In the last edition of his "Text-book of Obstetrics," Barton Cooke Hirst writes, regarding the use of general anesthetics in labor, that the choice in the eastern seaboard of the United States will usually be ether. The only directions which he gives concerning the use of anesthetics are for the administration of ether.

It has rightly been long accepted that chloroform is much safer when given to labor cases than when administered to any other class of patients, but because of this belief have we not thought it safer than it really is?

During an investigation of fatalities resulting from anesthesia in Iowa, Littig collected in all sixty-three cases of death from chloroform, five of which were in confinements. This record represents the findings of one man in one state. What would be discovered by an equally thorough investigation in other states can only be conjectured. But from what we have learned in recent years about the symptoms of acute toxemia resulting from chloroform anesthesia, it seems probable that the etiologic factor in some of our cases of supposed sepsis, pyelonephritis, postpartum eclampsia and puerperal meningitis was chloroform poisoning. In this connection I wish to cite briefly the following case.

University Hospital Maternity Case Number 450. American, primigravida. Age 22. This patient was admitted to the University Hospital in labor at term after several attempts to deliver an impacted brow presentation with forceps had failed. She had been under the influence of chloroform for at least four hours, having taken six ounces. Her temperature was 99.6°, pulse weak and running, rate 152.

Two hours after admission she was delivered in clinic by Professor Peterson, after perforating the head of the dead child and crushing it with Olshausen's narrow-bladed cephalotribe.

Under the circumstances a puerperal sepsis was expected; so, partly on this account and partly because of the patient's critical condition, no attempt was made to repair the extensive cervical and perineal lacerations which had resulted from the slipping off of the forceps used in the efforts to deliver her prior to her admission to the hospital.

The recovery during the first few days postpartum was surprisingly good. She had very little discomfort, and almost the only symptom suggesting sepsis was a slight temperature which reached its maximum, 102.2°, on the seventh day. The pulse continued more rapid than could be accounted for by the temperature, and most of the time ranged from 105 to 125. The patient was first referred for examination, and later transferred to the clinic of internal medicine and placed under Professor Hewlett's care.

Careful study and observation, including the catheterization of her ureters by Dr. Loree, resulted in a diagnosis of chronic nephritis, myocardial insufficiency and secondary anemia. The specific gravity of her urine ranged from 1.008 to 1.020, and was usually rather low. The albuminuria was constant, and the amount of albumin varied from one-sixth to one-fifth volume after precipitation with heat and nitric acid and standing twenty-four hours. Blood and pus cells were found in the urine from both kidneys, and pus casts and coarsely granular casts in the urine from the left kidney.

In this woman every symptom indicated that the course of the pregnancy had been perfectly normal, and no complication of any kind was anticipated until the night of

the labor. The most probable explanation for the myocardial insufficiency, the enlarged liver found on physical examination, and the nephritis, is the one of chloroform poisoning, as was suggested by the internists.

It may be regarded as self-evident that, as in any other condition for which surgical anesthesia is required, the element of danger attached to the use of chloroform in obstetrics becomes enormously increased when complete anesthesia is used for obstetrical operations, even though the duration of anesthesia may not exceed a few minutes and the amount of chloroform used may be only three or four drams. Thus, Guleke reports a fatality with symtoms typical of acute hepatic toxemia occurring ninety-two hours after operation in a strong, young woman upon whom he had done a herniotomy, the operation lasting thirty minutes and requiring twenty-five c. c. of chloroform.

Granted that there is no particular danger attendant upon the use of chloroform as usually given during the latter part of a short second stage, a few drops being allowed to fall upon the mask with each pain, this admission will not hold when the second stage is prolonged and a partial anesthesia is required for two or three hours or longer, or when complete anesthesia is necessary for the performance of a version, a manual dilatation, a difficult forceps delivery, or other obstetrical operation.

Both as regards the clinical symptoms and the autopsy findings there exists a close analogy between the eclamptic toxemia and the post anesthetic poisoning from chloroform. Therefore when more or less profound anesthesia is required for several hours in recurring eclamptic convulsions, chloroform is contraindicated for fear that the liver, which is already much damaged by the disease, may be subjected to further injury of like character from the chloroform.

The considerations just stated have made it seem advisable to abandon the routine use of chloroform for operative work in obstetrics. So, ether given by the drop method on an open mask has been used instead in the University clinic, and the results have been very satisfactory. Ether would seem to be especially indicated in the abdominal Cesarean Section, where it is of paramount importance to secure prompt uterine contraction following the delivery of the child. Once in a vaginal Cesarean operation which was begun under chloroform, it became necessary to substitute ether because the pulse quickly dropped to fifty. After changing to ether no further trouble was encountered.

The next question which naturally arose was, why use chloroform at all in routine obstetric work? Who can tell when an anesthetic is begun in the second stage how long its administration may be necessary, or when operative interference with preferably ether anesthesia may be demanded? If the custom of the physician is to administer chloroform in normal labor, will he not also give it for his operative cases? Why not reverse the present practice and make ether the usual anesthetic and chloroform the exception, to be given to none but selected cases?

The first thing to decide in trying to answer this question is if it is possible by using ether to secure a satisfactory "half anesthesia," such as is required for the ordinary delivery.

During the past year there have been one hundred and one confinements in the University Hospital Maternity, and ether has been used in the majority of these cases with great satisfaction. In no case has there been any difficulty in the resuscitation of the child, even when large amounts of ether have been given for as much as

two hours in tedious, slow second stages in primiparæ. Though there was several times a distinct tendency to postpartum hemorrhage after chloroform, there has been no such trouble after the use of ether.

The technique of administration is very simple. At the beginning of each pain five to twenty drops of ether are allowed to fall rapidly upon any simple or improvised open mask which the patient may hold herself. The plan is to allow her to secure one or two deep inhalations of fairly strong ether vapor before the pain is well under way. Between pains the mask is preferably removed from the patient's face, though it need not be.

This method gives a better analgesia than chloroform and personally I prefer to use ether for other reasons of superiority as follows: the uterine contractions return more promptly after ether than after chloroform, and the danger of over anesthetization and consequent diminution of the frequency of the pains hardly exists where ether is employed according to the technique just described. In sensitive neurasthenic women who suffer extremely from the labor pains ether may be given earlier and, as judged by its physiologic effect, in greater amount than chloroform without fear of stopping the pains. In fact, the action of ether as a powerful nervous and uterine stimulant is often very noticeable.

Those peculiarities of labor such as the increased intra-abdominal pressure, the stimulation of the heart and lungs by the recurring pains, and the physiological hypertrophy of the heart incident to pregnancy, which combined are believed to account for the parturient's comparative immunity to chloroform, protect her equally well from ether, and the latter appears to be not only superior to chloroform for administration in normal labor, but would also seem to be safer, since its effect, unlike that of chloroform, is not particularly damaging to the liver and kidneys, upon which of all the organs the strain of the increased metabolism of pregnancy falls most heavily.

Chloroform is considered to be especially contraindicated in acute anemia, uncompensated heart lesions, sepsis, nephritis, severe maternal exhaustion, and eclampsia if a long anesthesia be required. Ether should not be used in quantities at night unless with electric lights, nor in emphysema nor in acute inflammations of the lungs and bronchi.

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THE TECHNIC OF ANESTHESIA IN OBSTETRICS*

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The same general principles apply to the technic of surgical anesthesia in obstetrics as apply to anesthesia in other surgical work. It is universally admitted that ether is a safer anesthetic than chloroform. This is especially true when in unskilled hands. A concentrated vapor of chloroform is a great deal more poisonous than a concentrated vapor of ether. It also acts much more quickly, and, consequently, produces the lethal effects much sooner.

In the giving of an anesthetic the personal equation is an important one, and it is especially so in using chloroform. Some patients are far more susceptible to the anesthetic and toxic effects than others, and the skilled anesthetist never loses sight of this fact.

Comparing the mortality from the use of chloroform with that from ether, it is safe to say that there are four or five times as many deaths from chloroform as from ether. The secret of successful chloroform anesthesia is the greatest possible dilution with air and still produce anesthesia.

Since chloroform has come into general use it has been the anesthetic of choice in obstetrics. It has been thought that women in labor were immune to the ordinary accidents of chloroform anesthesia. And it is rather remarkable that the apparent percentage of deaths has been so small when we consider how often chloroform has been administered to the woman in labor by those wholly unskilled in its use. Chloroform may cause an hepatic toxemia, due to the destruction of the liver cells. This condition is dependent upon the quantity of the anesthetic and the duration of the anesthesia. On account of these and some other evil effects, ether is now being urged in labor cases.

The method of using any anesthetic varies greatly with the patient, and one has to be guided by the stage of labor, the severity of the pains, the patient's susceptibility to pain, and her general nervous condition. It often happens that a woman of good physical delevopment and nerve poise will pass through a confinement without the use of any anesthetic except possibly a small amount when the head is passing over the perineum. Although her pains may be severe, she bears them with fortitude, and there is no reason to believe that they will have any injurious effects upon her nervous system or retard her convalescence. An anesthetic is especially useful when the pains are very severe or the nervous system unstable and hypersensitive.

In regard to the amount of anesthetic and the time of giving it, the physician should not be too much influenced by the demands of the patient. The patient often insists upon having an anesthetic before it is best to give it. A safe general rule is to wait until the beginning of the second stage, at least, and then to give a small amount of anesthetic at the beginning of each labor pain. Deeper anesthesia may be induced as the end of labor approaches and the head is being born.

*Part of a Symposium on Obstetrical Anesthesia, read at the Forty-fifth Annual Meeting of the Michigan State Medical Society at Bay City, September 28, 29, 1910.

In labor and all other cases it is best to use chloroform or ether from an original package—from a fresh, unopened container It should be a product of known purity An Esmarch inhaler should be used in giving chloroform. The frame of the inhaler should be sterilized, and a fresh, clean cover used for every case.

Quite too common is the practice of carrying around in the obstetrical bag a dirty inhaler which has seen months of service without cleansing. Such carelessness is not in keeping with clean, up-to-date obstetrical work.

About six drops of chloroform on the inhaler will usually be sufficient to dull the labor pains. As stated before, this should be given at the first intimation of the oncoming pain, and the inhaler should be removed when the pain has passed. By increasing the amount of chloroform during the last few pains before the head is delivered, a degree of almost complete anesthesia may be induced. After this point in labor the rule is to discontinue the chloroform.

Ether may be successfully used by the drop method. A simple mask, somewhat larger than the ordinary Esmarch chloroform mask, is very satisfactory. The same general rules apply to both chloroform and ether. It is hardly necessary to remind you that on account of its inflammability ether should not be brought too near an open fire or light. There is also danger of chloroform being decomposed by gas or lamplight and producing dangerous vapors.

When ether is given by the drop method, patients take it about as easily as they would chloroform. I am thankful to say we are past the period when it was thought necessary to nearly drown the patient with ether in order to produce anesthesia. Whenever it is necessary to produce surgical anesthesia, the obstetrician should not attempt the double rôle of anesthetist and accoucheur. In almost every community are to be found men skilled in the administration of anesthetics whose services may be obtained. The laity are learning to appreciate the responsibility laid upon the anesthetist, and to choose him with the same care that they choose the operator.

I had no personal experience in the use of scopolamine and morphine except in surgical work when they were given preliminary to the administration of ether or chloroform. The drowsy, semiconscious state of the patient produced by morphine and scopolamine makes it possible to prepare her on the table, and materially shortens the time necessary to keep her under the other anesthetic. It does away with the nervous state preceding the anesthetic, and eliminates the excitement often present during the first stage of anesthesia. It also greatly lessens the quantity of other anesthetic necessary to keep the patient unconscious, diminishes the secretion of mucus in the air passages, and reduces the tendency to nausea and vomiting after the anesthetic. In the use of scopolamine with morphine it is especially necessary to have drugs of the highest purity. As scopolamine deteriorates rapidly when in solution, it should not be dissolved until needed.

In obstetrical work the usual doses of these drugs vary from 1-200 to 1-100 of a grain of scopolamine with from 1-8 to 1-4 of a grain of morphine. This dose may be repeated in from one to two hours, as deemed best. Scopolamine analgesia has been given much more extended trial abroad than in this country. So much depends upon the technic in the use of these drugs that with our present knowledge they are not suitable for use in the patient's home. Some authorities use a much smaller dose of scopolamine than others.

As there is such a wide difference in the

susceptibility to and effect of these drugs, we are unable to foresee their effects with any accuracy. For this reason, a fixed dosage is impossible. Gauss states that rarely 1-200 of a grain of scopolamine and 1-6 grain of morphine will suffice for a case of childbirth. Occasionally 1-50 grain of scopolamine and 1-3 grain of morphine will be required.

In a treatise on the aims and practical results of scopolamine-morphine anesthesia in obstetrics, Mansfield draws the conclusion that a well-conducted scopolamine-morphine childbirth requires enormous care, pains, and constant attention, and is not practical outside of a maternity hospital.

As at present administered, the results of scopolamine-morphine anesthesia are variable. The life of the child is endangered to a certain extent, there may be a depressing effect upon the heart of the mother, and the tendency to postpartum hemorrhage is increased, due to a lack of muscular tone in the uterus.

Lehman gives his results in seventy normal cases. As regards the mother, there was painless labor in 61 6-10 per cent., less painful in 37 per cent., and no effect in 1.4 per cent. As regards the child, 13.3 per cent. were born asphyxiated, 10 per cent. apnœic. Pains were inhibited in 16.3 per cent., labor hastened 23 per cent. Lehman obtained these results by using hypodermically 1-200 grain of scopolamine hydrobromate and 1-6 grain morphine muriate.

To my mind, the use of scopolamine and morphine in obstetrics has not passed beyond the experimental stage, although the future may have something better in store. On account of the variability in its action, it is not safe to use any prepared mixtures as offered by pharmaceutical houses. The danger to both mother and child must always be kept in mind. When small doses do not produce the desired effect, there is considerable risk in employing larger ones. With our present knowledge, I much prefer to rely upon the older tried anesthetics, properly administered, in obstetrical work.

ANESTHESIA IN ITS RELATIONS TO POSTPARTUM HEMORRHAGE*

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Pertinent to this subject is the question, Does anesthesia predispose to postpartum hemorrhage, and if so, which of the anesthetics ordinarily used in obstetrics is the least harmful?

It is conceded by the best authorities in the practice of obstetrics that anesthesia to the surgical degree is one of the prime etiological factors in the production of postpartum hemorrhage, and as there is no known means of foreseeing such an emergency, it behooves us to be just as much on the alert when anesthetizing a woman who is in labor as one upon whom we are about to operate for some other condition

In order to determine which of the anesthetics ordinarily used in obstetrics is the least harmful, it will be necessary to notice briefly the characteristic physiological

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action of the several drugs under consideration, then make our deductions.

CHLOROFORM

This drug is the most frequently used for obstetrical anesthesia; especially is this true of the western and southern portions of our country. In the East ether is rapidly superseding chloroform in obstetric work, as it has already completely done in routine surgical work. Some prominent obstetricians, however, still maintain that chloroform is just as safe as ether in obstetric anesthesia. For instance, no less an authority than Williams, in his latest text-book on obstetrics, says, "Chloroform is far preferable in normal labor, for by its use obstetrical anesthesia can be rapidly and safely produced; whereas ether, owing to its slower action, does not lend itself so readily to this method of employment."

Recent investigations would tend to show that chloroform produces more of a destructive change in the lower uterine musculature and kidneys than does ether, the pathological change being a fatty degeneration and necrosis.

One of the papers presented at the St. Louis meeting of the American Medical Association in the Obstetrical Section, by Drs. Cragin and Hall, of New York, illustrated beautifully the effects of ether and chloroform on the kidneys and liver. This paper will ere long be published in the *Journal of the American Medical Association*, and should be read by all who are practising obstetrics.

Chloroform narcosis is more rapidly induced and more evanescent in character than that of the other anesthetics.

ETHER

The chief advantages of ether are, its comparative safety when administered by one of limited experience, and its more prolonged effect, allowing the repair of lacerations. The chief disadvantages—the more disagreeable sensations experienced by the patient, the more irritating effect on the mucous membranes, producing an excessive amount of mucus in the bronchial tubes, and its inflammable nature when used in a room where a gas jet or lamp is burning.

NITROUS OXID AND OXYGEN

This anesthetic, which is evanescent in character, would seem at first thought to be an ideal one for obstetric work, but the cumbersome apparatus necessary for its administration prohibits its use except in lying-in institutions and hospitals. The fact that muscular relaxation does not readily follow its administration would suggest that it be used where postpartum hemorrhage was anticipated. It would seem, however, that a possible danger in its use might be asphyxia of the child, provided it be administered for a long period of time, as perfect oxygenation of the blood is so essential to the welfare of the child in utero. The fact also that it produces a temporary rise in blood pressure might tend to produce flooding, especially in an elderly patient with atheromatous arteries.

MORPHINE

This drug serves a useful purpose in the relief of pain in labor, but a thorough understanding of how, when, and how much to give is absolutely necessary to its successful employment; this will be dealt with in another paper of this symposium. Suffice it to say here that in so far as its relations to the etiology of postpartum hemorrhage is concerned it is largely a question of whether or not it is given early in the first stage. If used at all, it should only be given at that time.

HYOSCINE

This drug, in combination with morphine, has recently been used to produce obstetric anesthesia, but seems to possess little if any advantage over the other drugs, except perhaps in quieting patients of maniacal inclinations. Some adverse reports

have appeared in medical literature where it had been given in repeated doses, the tendency being to favor uterine inertia.

CHLORETONE

This comparatively new drug serves an excellent purpose in allaying the nervousness and apprehension incident to the first stage of labor, and in so far as I have been able to ascertain, produces no tendency to uterine inertia.

CHLORAL HYDRAT

The action of this drug is similar to morphine, and its administration should be early and the amount not too large nor too often repeated.

My actual experience with postpartum hemorrhage, which I believe to have been produced by anesthetics, is limited to two cases,—one occurring in the earlier days of my own practice, where chloroform was administered for too great a length of time and too freely. The other was in consultation with another physician who administered the commercial morphine hyoscine cactine tablet, one dose early in the first stage, the other late in the second stage. In this latter case the uterine inertia was very persistent and lasted for several hours, despite the use of remedies which were administered to produce contraction.

In conclusion, it may be said that ether and chloroform should never be used until late in the second stage of labor, as their prolonged use may result in uterine inertia and postpartum hemorrhage, while the reverse holds true of the other anesthetics, viz., that they should, if used at all, be only used in the beginning of the first stage, as their more prolonged action may cause relaxation of the uterine muscle and favor postpartum hemorrhage.

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DISCUSSION ON PAPERS OF DRS. MORLEY, WOOD, WHINERY AND BELL

DR. R. R. SMITH, Grand Rapids.—I wish some one else might have opened this discussion, for my own experience with anesthesia in obstetrics is rather limited. But we have paid some little attention to the matter of anesthesia in general operative work. I shall, therefore, speak rather from that standpoint than from the standpoint of the obstetrician.

In spite of the good reports which Dr. Morley has had from investigators on the use of morphine-scopolamine in obstetrics, I believe that eventually it will not be very popular with the profession. I say this because of our own experience with the mixture. We have used it as an adjunct in between four and five hundred surgical cases, and are fairly well acquainted with its action. I believe it will not be popular in obstetrics, because it is rather uncertain in its action, tends, I believe, to reduce the strength of the pains, thus modifying the natural course of the labor. It would require perhaps more constant attention on the part of the obstetrician than is often practical to give in the average case. In addition to this the good effects of the drug (I say this from conversation with a number of men who have used it) are not pronounced enough to make it really seem as though it would become popular. As an adjunct for operative work, however, the mixture of scopolamine and morphine is certainly of value. I think I can safely say that the dangers from this combination have been very much exaggerated, largely by men who have rushed into its use and whose control of the anesthesia has in consequence been imperfect, or who have left this part of the work to an improperly qualified anesthetist, and also by men who have talked against the drug for theoretical reasons. If scopolamine and morphine are to be used as an adjunct to other anesthetics, it is absolutely necessary to have a skilled anesthetist. We must remember that in giving these drugs the danger-point is brought nearer, that is, less ether or chloroform is required to produce danger symptoms than would be the case under normal circumstances. This is speaking of the immediate effects of the drug. The remote dangers are decreased, because the amount of chloroform or ether required is very materially reduced,—reduced because we have to administer the drug a shorter period of time, and the actual amount administered during the time of operation is also materially reduced. We have worked this matter out carefully; we are trying not to be overly en-

thusiastic about it, but we are still using scopolamine and morphine, and like it more and more all the time. We use it now almost entirely with ether, or with nitrous oxide mixture, almost never with chloroform.

It is interesting to note what Dr. Wood says in regard to the use of ether in obstetrics. Theoretically it would seem to every one who has studied the action of the two drugs, chloroform and ether, that this must be the eventual outcome. We must have overlooked the possible dangers of chloroform in obstetrics, and I was much pleased to see that this experiment has been tried.

In administering ether, the old method of pouring ether on a cone is now hardly ever followed. The open method of giving ether, dropping it drop by drop on an open mask, is, of course, a vast improvement, but still far short of what may be accomplished along this line. The passing of a stream of air through ether is far preferable, and if again that ether vapor may be warmed we have a more nearly ideal method. The irritating effects of ether are largely brought about by refrigeration of the ether, and to those who have not tried the method it is remarkable to note how little mucus is thrown out and how few disturbances of respiration arise when this technique is carried out, namely: Warm ether vapor mixed with air applied directly under the mask. I see no reason why this should not be done in obstetrical work. A simple apparatus may be easily devised, such as we are now using at the hospital. The anesthetist pumps with a bulb a stream of air through a bottle containing ether, from which the mixture passes through a copper coil dipped in hot water, and from this to the mask. This device is simple, inexpensive and effective.

Dr. C. E. Boys, Kalamazoo.—I desire to emphasize especially the point that has been made with reference to the decomposition of chloroform when used in the presence of an open light. In one instance, during a high forceps operation, I almost collapsed because of the accumulation of this gas in the room. I have in mind also another instance, in which three doctors and two nurses were in attendance on an operative procedure, when three out of the five were overcome and had to retire to another room, thus leaving the patient in charge of only two. This constitutes to my mind one of the objections to chloroform.

I also wish to emphasize what has been said by Dr. Smith with reference to the use of warmed ether vapor. It greatly modifies or entirely eliminates mucus in the throat. Dr. Gwathmey, of New York, has originated an apparatus whereby vaporization of the ether is brought about by blowing air through it, after which it is passed through warm water. In addition to preventing the excessive secretion of mucus, by the use of this apparatus much less ether is required, therefore the tendency is to have less toxemia produced. It also eliminates the danger of fire. You cannot get it afire. The gas is all that is combustible, and there is no more fuel to burn when we stop working the bulb which forces the air through the ether. The lack of mucus in the throat and the safety attending its use constitute a great advance in obstetrical anesthesia. I have carried one of these inhalers in my outfit for several months. The anesthetic is easily administered by this means, and I find it much more satisfactory than any other method of producing anesthesia with which I am acquainted

Dr. J. H. Carstens, Detroit.—I have heard only the latter part of the symposium and the discussion which has thus far taken place, but from this I take it that the use of ether in obstetrics has been strongly advocated. I must say that the way I look at these things is that "the proof of the pudding is the eating thereof," and having been an obstetrician once myself, and having used chloroform a good many dozens, hundreds, yes, thousands of times, in obstetrics, I must say I cannot feel that there is any particular danger about the use of chloroform. These things are all theoretical. Most of those here who are country practitioners have had the experience of being obliged to administer an anesthetic when attending an obstetrical case five or ten miles from town, and I venture to say that they have found chloroform a very nice, handy thing to use under these circumstances. In many of these cases you are all alone with the patient except that perhaps the husband is present, and he perchance faints, and you have to take him by the neck and throw him out in the snow and go back, administer chloroform and apply forceps. And when you have done that ten, fifty, or one hundred times, you finally come to feel that chloroform is a pretty nice thing to use. I never had any trouble with it at all. I have sometimes had a patient turn quite blue, simply because I rolled her on one side to put on the forceps, in consequence of which she got her face in the feather-bed and was asphyxiated by this means, but I could soon see that something was wrong, and upon taking the obstruc-

tion away she was all right without any trouble, and the child was delivered. I have never yet lost a patient from the use of chloroform in obstetrics. With this experience in a big record of cases, some five hundred, in which I have administered chloroform and delivered with instruments, in a great, great many of which cases I was absolutely without assistance, I naturally feel that there is a great deal of fad about these things. I will admit that under some conditions there is danger in the use of chloroform, for instance in the extraction of teeth. There is no doubt at all that there is something about the dental nerves whereby we get a reflex condition which is dangerous, and many patients die under these circumstances, perhaps through the position of the patient and so on. But I have taught right along that there is not on record a single authentic case of a woman in labor dying from the administration of chloroform. And now when operating on a pregnant woman I never hesitate to use chloroform; in fact, in the past I have used chloroform altogether in these cases, although recently, because of the easy way of getting a patient under the influence of nitrous oxid gas, and then administering ether, I have been in the habit of using this combination exclusively in all surgical work. But if a woman is pregnant, I have no hesitancy at all in giving chloroform and getting her profoundly under its influence. I do not think it at all injurious, for I still have firm faith that there is some peculiar condition of the blood and nervous system in these cases which enables us to administer chloroform without any danger whatever. Of course there is no doubt but that there is a certain amount of danger in the use of chloroform; there is a certain amount of danger in the use of ether, there is a certain amount of danger in the use of anything. But in the case of chloroform I feel that the danger is so little that I would not like to have it tabooed and ether substituted for it.

With regard to the point made by Dr. Bell as to the danger of postpartum hemorrhage, I have always considered this a source of danger, and I have been in the habit of giving a hypodermic injection of ergot or perhaps a good dose of ergot before starting the chloroform, and then when nearly finished I would stop the chloroform, so that by the time the forceps were applied and the child delivered or version performed the patient would be almost out from under the influence of the anesthetic, after which I simply watched the uterus well to see that thorough contraction took place.

I have seen as much postpartum hemorrhage, and perhaps more, in patients to whom no anesthetic had been administered. Still there is no doubt at all that if we keep a patient profoundly under the influence of the anesthetic an hour or so, time is required to re-establish muscular tonicity and rigidity, and thus we might have a patient not only lose a great deal of blood, but perhaps die. Therefore we must be on the lookout for this danger. When there is kidney disease I use chloroform, but a lessened amount of it. Perhaps I am mistaken; it may be that ether is just as hard on the kidneys as chloroform. I would not like to take a positive stand on it. I simply say that I have been in the habit of doing this without any particular apparent danger.

Dr. R. PETERSON, Ann Arbor.—I did not hear the papers read, but the symposium is made up of subjects in which we are all interested.

I must say that my opinion has always been similar to that expressed by Dr. Carstens. Perhaps it is imagination that has led me to believe that some peculiar reason exists whereby the obstetrical patient does not run the same risk or danger in the taking of chloroform as do other patients. Still I cannot but feel that possibly our observations have been a little incomplete. Certainly recent reports have shown that there is considerable danger in the administration of chloroform to the pregnant woman. And so it was with my entire sanction that Dr. Wood took up this experimental work with ether in the Maternity Ward of University Hospital. From what I have seen of Dr. Wood's work it would seem to me that ether is just as serviceable as chloroform, and I think from the reports that we have received where accurate observations have been made, that it will prove safer. In the University Hospital we try to teach a method that can be readily employed by the practitioner, so we have not taken up the use of scopolamine; very little nitrous oxid gas has been used, and we have stuck to the administration of ether almost entirely. This is for the purpose of teaching the student to use one anesthetic. If after he gets out into practice his tastes are inclined that way, and he wishes to be an expert in anesthesia, he can then take up the various methods and perfect himself in them. But it seems to me that he should be taught one method, and that as perfectly as it can be taught to the undergraduate.

We have not used scopolamine enough in obstetrics to be in a position to make a report on it. Theoretically I have been opposed to it, and I think Dr. Smith is perfectly right in his con-

clusions, although, as stated, I am not in position to discuss it from a personal standpoint. I am firmly convinced that there is an increased danger in obstetrics, as far as postpartum hemorrhage is concerned, from the use of anesthesia, and I always teach that one must be doubly careful where an anesthetic has been employed.

We need more accurate observations as to the use of chloroform in obstetrics, so that correct deductions can be made. We are always open to suggestions; we are willing to revise our opinions, and it is surprising how some of our pet theories and cherished beliefs go down under accurately recorded observations. Often we wake up to find that we really were not right in our suppositions. And such will, I believe, be the case with the use of chloroform as against the use of ether in obstetrics.

Dr. H. W. Yates, Detroit.—I was untortunate in not hearing Dr. Morley's paper, also the one that succeeded it, for they have been referred to several times in the discussion.

Patients do not seem to have a tolerance tor any anesthetic in labor that they do not have during pregnancy. Recent observations have shown that pregnant women are more liable to fatty necrosis of the liver and kidneys than almost any other class of patients, unless it be those of acute yellow atrophy of the liver, which indeed the former simulate in many respects.

I did not hear the conclusions of Dr. Wood's paper relative to chloroform, but I think the same thing applies in a prolonged chloroform anesthesia in any case and especially in that of the pregnant woman—limited areas of the liver show fatty necrotic changes. If that be true, it seems to me that we should be rather cautious in the long-continued use of chloroform in these conditions. If it works synergistically with pregnancy in the breaking down of liver tissue, we should be exceedingly careful about its long-continued use. With Dr. Carstens, we must agree that in the case of a normal patient, one who needs the anesthetic for but a short time, chloroform is the easier means of anesthesia and very fairly safe.

As regards the presence of hemorrhage with or without anesthesia, it is very difficult to determine, inasmuch as we do not maintain anesthesia for a long period unless the patient is passing through a very hard labor, in which case she has a severe tax upon her strength, blood pressure has become low, and she is in a relaxed state, and that patient would bleed whether or not an anesthetic had been administered. Therefore I do not think it is a fair conclusion to say that the patient is any more liable to bleed on that account.

The point I particularly wish to make is that in short anesthesias chloroform is a fairly safe, easily administered and reliable drug, but for long anesthesias it should not be used for the reasons I have outlined.

Dr. Jas. P. Letts, Romeo.—With regard to chloroform in these cases, the point I desire to emphasize is that the drug should not be indiscriminately used. Many physicians make it a practice to tell a patient about to be confined that she will suffer no pain whatever because they will give her something to relieve pain and nervousness, and consequently they resort to the use of chloroform whether or not it is needed. I fully agree with Dr. Carstens as to certain conditions which surround a country practitioner. We do find times when it is impossible to use anything except chloroform, because we are alone out in a rural district, the only help we have perhaps a servant or neighbor woman. Therefore it is necessary for the physician not only to administer the anesthetic himself, but to be the accoucheur and do the whole work alone. Under these circumstances I have found that chloroform is about the only remedy we have. But the point we should especially remember, and the one I wish to impress upon you, is the fact that we should not use it indiscriminately.

In regard to patients dying from the administration of chloroform, I will say that from personal observations it is my belief that this result is altogether due to the anesthetist. Students in our colleges should be more carefully schooled in the use of anesthetics. I always feel when sending a case to a surgeon that this is the business end of the operation, because I have had some cases die so quickly before the knife was used that I am always in fear that something may go wrong with the anesthetic.

Dr. Mary Williams, Bay City.—I would like to ask if postpartum hemorrhage is not caused by the placenta being removed too soon, rather than by the anesthetic.

Dr. E. T. Abrams, Dollar Bay.—I fully agree with what Dr. Carstens has said. In my own practice I do not believe I have ever used ether in an obstetrical case. A great many cases in my early practice were similar to those referred to by Dr. Carstens, and, as Dr. Letts has said, in the use of any anesthetic the great danger, perhaps greater in the case of chloroform than that of ether, comes from its indiscriminate and neg-

lectful use. When a man undertakes to put a pregnant woman under the influence of chloroform with no trained assistance, he has quite a job on his hands, and he should himself carefully watch the effect of the drug.

So far as hemorrhage following the administration of an anesthetic is concerned, from my own experience I can say that there is no question but that anesthesia is a predisposing factor to postpartum hemorrhage in any case and in all cases. In fact, I seldom give an anesthetic in obstetrics that I do not expect and prepare for postpartum hemorrhage.

As regards the question asked by Dr. Williams, I would say that in my own experience I have had, I think, quite as few hemorrhages as soon as the child was born or immediately afterwards, as after expulsion of the placenta.

DR. W. C. STEVENS, Detroit.—I have treated many of these cases, and have never seen any danger from the use of chloroform in obstetrics. But that is probably good fortune, and the question of finding something better is a very pertinent one. We all concede the danger of chloroform when given too freely or improperly, but, after all, I have been fortunate enough to have had no trouble.

With regard to scopolamine-morphine anesthesia in obstetrics, I have had no experience in its use, because a few years ago I gave up the practice of obstetrics entirely, yet I could not help maintaining an interest in a work I had done so much of. I have five friends, three in Detroit and two in the country, one of whom has a very large practice in the Italian quarter of the city and one a large general practice, and the reports that come to me from all these men would lead me to believe that every one should take up and carefully study this problem. One man in Detroit, who has attended a great many cases, tells me that he has never had any trouble, but does not know when he will have it. Still he is keeping his eyes open and doing a good work. He has reported to me a number of cases in which the patient has given birth to the child and gone on sleeping just as they do after a surgical operation under the same anesthesia, waking up three or four hours after the child was born and asking why they did not get to doing something. These cases have never been in print; they probably never will be. They are in the hands of men who somehow do not go very often to the Medical Society, and if they did would not take the trouble to write up their experiences. From what I have heard of these cases and have learned in my surgical work as to the use of this anesthetic, I would say, carefully follow it up and decide the question for yourself. Personally I do not believe there is any more danger from this method of anesthesia than from any other. Who will say there is no danger in anesthesia? I do not believe any one will.

I understood one speaker to say that this form of anesthesia should not be used in the patient's home. I know one man who buys these tablets in bottles of five hundred. I would not care to say how many cases of obstetrics he has had in two years, because it would sound like a fish story, but the records of obstetrical cases are now on file. The particular point I would like to make is, active men should bring in reports at some future time, because if we can make this method a success it certainly is ideal for the production of anesthesia in obstetrics.

DR. H. W. LONGYEAR, Detroit.—I am somewhat like most of the other old-timers here, in regard to chloroform; I was taught, and my experience has led me to believe, that there is little danger in using chloroform in obstetrics. Giving it in surgical operations and dental work is, however, a different question. I have never been afraid to give it in obstetrical cases. In surgical work I rarely use it; never, unless anesthesia by gas and ether is contraindicated.

I would like to ask the essayists (whose papers I unfortunately did not hear), if on examining these cases after ether administration, they have found the same showing in the urine that may so frequently be found in surgical cases if the urine is examined immediately after operation, under ether anesthesia. After surgical operation I almost invariably find casts and albumin present in varying amounts, for two or three days. It seems to me that this finding indicates some irritation of the kidneys, and in obstetrical practice such action might be a greater objection to the use of ether than pertains to ordinary surgical work. If so, and it is not thus found following chloroform administration, in the same cases, it would seem to me it would be a decided indication against the use of ether in obstetrics. It certainly is much more convenient to give chloroform in obstetrics than to warm ether and administer it.

For myself I would never hesitate to use chloroform in ordinary obstetrical practice.

DR. B. R. SCHENCK, Detroit.—I think that one may sum up the whole question briefly as follows:

1. If one has a normal case, I believe chloro-

form is the proper anesthetic to use providing one can give it at the beginning of pains and take it away at the end, so that it is not continuous.

2. If one has an operative case in which the patient must be completely under the influence of the anesthetic and relaxed, I think ether should be employed. I agree with Dr. Abrams and one or two others, that the danger lies in the indiscriminate use of an anesthetic.

3. In giving a mixed anesthetic such as morphine and scopolamine, the danger is that before the advent of anesthesia the patient does not show the line of resistance she would show previous to the administration of ether. That point constitutes my objection to the use of any mixed anesthetic.

4. I think one must have a skilled anesthetist. If one is obliged to depend on the average anesthetist available in these cases, I believe in giving just one anesthetic, in order that the effect of the drug can be carefully watched at all times.

Dr. Benj. A. Shepard, Plainwell.—It seems to me that we have a definite and scientific basis on which to decide this question. During the pain we have a high arterial blood pressure. We have during pregnancy what might be called an overtaxed kidney. We may have uremia, due not to acute nephritis, but to renal insufficiency. In the pregnant condition the kidney is doing an unusual amount of functionating which tends to raise the blood pressure, and labor, as already stated, tends to raise the blood pressure. Ether, if it has any effect, also tends to raise the blood pressure. Hence we have in the administration of ether in these cases an agent which will make a bad matter worse in the event that we have or are liable to have an excessively high pressure as at the time of labor. And we may have no accurate method at hand of measuring that pressure or estimating its effects. Therefore we have a contraindication for ether. On the other hand, in chloroform we have a drug which we know lowers blood pressure, therefore by giving it in labor we offset that tendency. It seems to me that this line of reasoning puts the question on a logical basis. Even in diseased conditions of the heart it is not contraindicated so much as we would think, because by its administration we help unload the work of the heart.

Dr. Morley (closing the discussion).—As stated in my paper, my experience with scopolamine and morphine has been limited, but if this method amounts to anything it will, as Dr. Stevens has said, be the ideal anesthetic in obstetrical cases. It is easy to administer, and the simple fact that it is easy to administer will make it an ideal anesthetic for country practice, that is, where the accoucheur is alone. For the administration of either chloroform or ether, one should have an experienced anesthetist, because there are times when the physician is too busy with other things to manage the anesthetic. I am now conducting some research work along this line, and I hope some day to have a report to present on this subject. The reports I have tabulated vary somewhat, but Gauss, who reports one thousand cases, says the bad effects are due to poor technique, and that may easily be so. In many cases the scopolamine and morphine are given together, that is, in a tablet which contains scopolamine and morphine and very often "cactin." When it becomes necessary to repeat the injection, morphine should not be given, therefore it is better to have two tablets and dissolve them as you need them, and then when it becomes necessary to repeat the injection one should simply give the scopolamine. In one case, which I recently had in the clinic, I simply used one injection of 1-100 grain of scopolamine and 1-8 of morphine, and obtained a result in about fifteen minutes. This was at the beginning of the second stage. It was not necessary to use another injection at that time. The child was born without any apparent ill effects, and there was no perineal tear. This woman had had children before, and she said she had never had as easy a time. This is only one case, and I would not, therefore, attempt to draw any conclusions from it. I must say, however, that if in our experience we can get some such report as some have given us, I think we will have the ideal obstetrical anesthetic.

Dr. Wood (closing the discussion).—The results presented in my paper have, of course, been collected from a small series of cases, 101 in all, but these represent a year's work. I began the year prejudiced in favor of chloroform largely on account of the teachings of many of the writers. My experience with chloroform used in normal labor was very similar to that stated by Dr. Abrams. The first thing I knew I had two or three cases in which there was a distinct tendency to postpartum hemorrhage, which was never very serious, was easily controlled, but was sufficient to cause me to think about it every time I administered chloroform.

Then when we decided to try ether I still was on the lookout for postpartum hemorrhage. I have not had any such experience since. I do

not think that this was altogether coincidence, but that there is some relation between the two drugs and postpartum hemorrhage.

My experience in the giving of ether has been such as to make me think that the warming of ether for obstetrical anesthesia, the half-anesthesia of the ordinary labor case, is not necessary or desirable. There has never been anything at any time to make me wish I had warm ether. I think the secret of its use is to give the vapor fairly strong, and not be afraid to let the mask lie right down on the face. The patient can take only one or two breaths at the most if administration is begun at the proper time with regard to the pain, and no patient complains of ether fumes; in fact, I think that the fumes, which would be very objectionable to a patient in the early stage of anesthesia preparatory to a surgical operation, are really of value in obstetrical cases, because they take the mind of the patient off the pain, one whiff causing her to think only of what she is smelling. I never have noted the slightest objection on the part of any of these patients to the odor of ether, neither have I observed any trouble at any time from mucus in these cases. To my knowledge there has not been one case of vomiting after ether used for this half-anesthesia. We get about the usual proportion of it following cases in which it has been used for surgical anesthesia, but I have not seen it in half-anesthesia.

DR. H. W. YATES, Detroit.—How is it with regard to chloroform?

DR. WOOD.—Perhaps I have seen one case of slight nausea after chloroform used for normal labor, but the two drugs are just about alike in my experience as regards vomiting.

The simplicity of the use of ether is the point that appeals to me. I do not believe one requires an assistant, and if I had to do very much work alone which required simply a halt-anesthesia, not surgical anesthesia, ether would be my choice. All that is necessary is a two-ounce bottle of ether with a fairly wide slot along one side of the cork, and when the pain comes on have some one shake the bottle once over the mask during the pain, which will usually give the required amount of anesthesia. Between pains the mask need not necessarily be removed from the patient's face. I have given ether in the country where the only light was from kerosene lamps, at the other side of the room.

DR. B. J. WHINERY (closing the discussion)—As regards the administration of scopolamine and morphine in the home: as stated, I have not used this combination of drugs in obstetrics, but the majority of those making reports in the literature particularly advise against the use of it in private practice. They state that it is best used in hospital work. So far as I could learn from the reports, this is because of the variability of its action, the dangers that sometimes arise, the susceptibility of different patients to the action of the drugs, and the need of carefully watching the patient who has been given this combination of drugs. It may be that a patient will require only a very small dose, less than the ordinary dose. One-sixth grain of morphine is, I take it, about the dose usually given, to 1-200 grain of scopolamine. It may be that a repetition of this dose will not be necessary.

I have not seen any report on the condition of the urine after the use of ether in obstetrics. I am, therefore, unable to state whether or not there is a tendency to the presence of casts and a slight albuminuria.

DR. BELL (closing the discussion).—I have little to add in closing except to say that it is my belief that in routine obstetrical work, as several have stated this afternoon, chloroform is quite safe. But if prolonged anesthesia is necessary for any difficult operative measures to be undertaken, ether should certainly be used. From the literature and from discussion and the views expressed by men who have had experience along these lines, this would seem to be the consensus of opinion, and is what we should carry away with us from this meeting, namely: In routine obstetrical practice chloroform is the proper drug to use, but when a prolonged operation requiring anesthesia for any great length of time is necessary, we should not for a moment think of continuing the chloroform, but use ether.

Just a word regarding experimental work with morphine and scopolamine. It must be borne in mind that if we are to scientifically determine anything regarding the use or disuse of these drugs, we should use the C. P. products. Dr. Stevens refers to some one who buys these tablets in bottles of five hundred. We have had a report from the committee on pharmacology of the American Medical Association showing that one brand of these tablets was found to contain at least one drug that was inert, and I think some of the reports showed two of the drugs to be inert. What kind of scientific deduction can we make if such material is used?

DR. STEVENS.—That bottle of five hundred tablets was made in Detroit, that is all I have to say about it. I am not in the employ of that house. I will tell you the manufacturer's name privately, but not here.

THE ADMINISTRATION OF INHALATION ANESTHETICS*

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The essentials of a good anesthetic are to get the patient under with as little discomfort to him as possible, keep him sufficiently under until the operation is completed, and to have him alive and able to recover, when all is over. To do this requires judgment, intelligence, courage and skill. The anesthetist should have such a good assortment of these qualities that the surgeon may feel free to dismiss the matter of anesthesia from his mind except as he may receive information as to the patient's condition when asked for or given by the anesthetist.

In most cases when the patient is once under, the operator should be spared from interruptions until the work is done. Interruptions are usually due to incomplete anesthesia and other conditions which are under the control of the anesthetist if strict attention is given his work. An operator cannot do good surgery if he has to fight for an opportunity to work.

In spite of the common knowledge that the physical examination of the patient is an important preliminary, it is too often neglected. This is not always so important a factor in helping us to decide that an anesthetic cannot be given, as it is in helping us to decide what is normal for that case that later manifestations can be compared to it; for an anesthetic must often be given at any hazard. Mitral valve lesions are of slight importance as compared to that of the muscular condition, heart failure usually being associated with the latter.

The preparation for anesthesia is, as a rule, that for the operation, an empty stomach and active emunctories. Some surgeons prefer a preliminary medication of morphine, chloretone, whiskey, and the like. In Kalamazoo several of us have used morphine and atropine or morphine and hyoscine before anesthesia, but have abandoned it except in alcoholic and extremely nervous cases, as these drugs so disturb the reflexes that it is difficult to know the depth of anesthesia.

In considering the protection of the patient, it is well to mention too much pressure as one item. Surgeons' arms, too many blankets, the patient's arms, all come to mind. Place some books upon your own chest while lying down, and see how it impedes respiration.

The use of iodin preparation has done much to prevent chilling of the patient from water used in scrubbing. This chilling is avoided if the patient always goes on the table in a dry condition and is kept so during the operation. All tables should be covered with a thick, dry pad or a water mattress filled with warm water. These protect from pressure injury as well as cold.

Protect the corneas from the anesthetic, from towels or cotton, and, what is still more important, from the fingers of the anesthetist. To touch the cornea is unnecessary, and liable to do harm. In the

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vapor methods there is no danger of injury to the eyes, and they had best be left uncovered. This permits better observation.

Protect against vomitus. Retching and vomiting means insufficient anesthesia, therefore give more attention to the ether cone than the emesis basin, and these will soon stop. Don't turn the head too far to one side. It is difficult to vomit with a kink in your esophagus.

In selecting an anesthetic, it should first of all be the safest that will insure sufficient narcosis both as to depth and duration, and which will have the least after-effects either immediate or delayed.

The nitrous oxide-oxygen combination probably enjoys the best reputation as to safety. Most all sorts of work is now being done under it, and with much satisfaction. While a few years ago we considered five or ten minutes of gas anesthesia was a long one, it is now being given for most any length of time which the operator needs. About the only drawbacks to its use are the high cost (about $6.00 per hour), the need of cumbersome apparatus, and of unusual skill in administration.

Ether is undoubtedly considered as the best all-round anesthetic we have to-day. It is safer in unskilled hands, portable, of moderate cost, and can be used in nearly all sorts of physical conditions.

Chloroform at least in our climate seems to be abandoned more even than formerly, possibly because the past few years have revealed so much with reference to the delayed effects which follow its use.

There are two parts to the administration of an anesthetic. One is to change the liquid to a vapor, and the other is to get that vapor into the lungs. Great volatility makes the former easy to accomplish, a piece of gauze supported by means of a cone or mask being all that is needed in the way of a carburetor.

The open drop method is perhaps the most popular at this time, but it suffers the disrepute of causing an intense chilling of the lungs due to the refrigeration which results from the evaporation. Masks are at times so cold as to be covered with snow. This vapor and air enter the lungs very cold, but is exhaled at about body temperature. This chilling must have an influence in the causation of increased mucus in the throat, and pneumonia.

The cone, in my opinion, is better than the open method, as there is always a certain amount of exhaled air to modify the temperature of the next inhalation.

Dr. J. B. Murphy has for a number of years used a tank similar to those formerly used to store nitrous oxide gas, but having in the upper half an open container for ether. By raising the upper half, air rushes in and mixes with the ether. This mixture is then forced through the patient's nose by means of a tube. No attempt is made to warm the vapors. He reports a great decrease in the nausea and vomiting after operations where this is used over those employing other methods.

A certain hospital in Iowa reported a few months ago the use of an electric light bulb inside an ether cone for the purpose of vaporizing the ether and warming the vapor. They claim that the patients have less nausea and vomiting, practically no mucus in the throat, and less ether is needed.

Dr. Teter, of Cleveland, claims that when nitrous oxide gas and ogygen are warmed it takes a considerably smaller amount to produce the same degree of anesthesia, there is less cyanosis, less mucus in the throat, and much less muscular spasm. He warms the gases by means of heat from an alcohol lamp.

Dr. J. T. Gwathmey, of New York, has gone a step farther in devising an apparatus which vaporizes the anesthetic by forcing air through it by means of a double bulb, and then both warms and washes the vapor

by passing it through warm water. He claims that the purest possible ether vapor is thus obtained, the water taking out irritating properties. He finds that this method requires a greatly reduced amount of ether (three to five ounces for an hour and a half of anesthesia when preceded by ¼ grain of morphine), practically no mucus in the throat, less lung complications, less nausea and vomiting.

Three or four of us in Kalamazoo have tried out this method, both in Gwathmey's own apparatus and in some we made with modifications, and we find that these statements are so largely true with us that other methods have been almost entirely abandoned. We use more ether than Dr. Gwathmey, but possibly because we use no preliminary medication.

To get the vapors into the lungs requires that there be no obstructions to breathing. These may be either in the anesthetic apparatus or in the patient. Sticky valves, or complicated closed methods not properly operated, or cones with gauze too tightly packed or with too small openings are examples of the former. Frequently one sees the anesthetist cover a cone with a towel with a result of cyanosis and no anesthesia, as neither air nor ether can get into the lungs.

The anesthetic and apparatus having been chosen, and all being ready for the administration, it is well to take a few minutes to explain to the patient what he may expect and what he is supposed to do. A little time so spent will often get both the confidence and the coöperation of the patient, who might otherwise be unruly. If a patient is encouraged to "blow it out" well if it seems too strong, he will often do so eagerly, quite forgetting that he will inhale deeply to make the exhalation possible.

Much of the success of the anesthetic depends upon how well it is started. It should be given very slowly at first, and then gradually increased until complete. If strangling or coughing results, it is best to reduce the amount given until it can be better borne, or remove entirely until one full breath has been taken, when the vapor will usually be taken without resistance.

When full anesthesia is reached, it is well to pause until we are sure all is going well, as this is the most critical time of the anesthetic, being that at which death most often results. This suggests that about as much responsibility is assumed in giving an anesthetic for a short operation as for a long one.

Complete anesthesia may be considered to be present when we observe:—complete loss of consciousness, relaxation of voluntary muscles, free and full breathing of strong ether vapor, no reflex when the operation is started, fixedness of the eyeballs and dilatation of the pupils (unless morphine has been given). It is to these symptoms that I would look for the signs of the depth of anesthesia. When the color is good, when the pupils react to light, when the eyeballs oscillate slowly from side to side, and when strong ether vapor is freely breathed, the anesthesia is at the proper depth. If, however, cyanosis, rigidities of the pupils and eyeballs and short, jerky respirations ensue, it is too deep and should be removed until recovery takes place.

If shock and collapse occur during anesthesia the following suggestions would be in order:

1. Remove anesthetic.

2. Insure the patency of the respiratory tract.

3. Stop operating and return all viscera to accustomed places in the abdominal cavity (this is often enough).

4. Artificial respiration, with administration of ammonia salts or oxygen.

5. Stretch the sphincters.

6. Give salt solution subcutaneously, or better intravenously. One litre is maximum amount that is desirable.

7. Transfusion of blood if donor is obtainable.

8. Heart massage if the abdomen is opened.

The experiments of Dr. Crile and others would cause us to question the advisability of hypodermic stimulation with such drugs as strychnia, adrenalin, and digitalin, and emphasize the great superiority of blood transfusion over all other methods, especially if collapse is accompanied by hemorrhage.

The post-anesthetic care is often neglected. The anesthetist should not leave his patient until all wet clothing has been removed and dry ones put on, until he is well covered with warm blankets, and placed in his bed. The care of vomiting or possible collapse on the way to the room should not be left with an orderly. When the anesthetist sees his patient in bed again and in good condition and in charge of a competent nurse, he may consider his duties at an end.

In anesthetics for nose, mouth and throat work we have the most difficulty which the field affords. Difficult because the anesthetic interferes with the operation and the operation interferes with the anesthetic. They are also the most dangerous with which we have to deal both because of the early age, as in cleft palate and hare lip, and because the type of constitution which these cases represent does not tolerate anesthetics well. In addition to these dangers, that of mechanical obstruction to respiration is often present as with enlarged tonsils and adenoids.

I wish to commend what has been said by several writers that chloroform is a very dangerous anesthetic in these cases which are usually of the so-called lymphatic type, and should rarely if ever be used. Nitrous oxide would probably be the anesthetic of choice if the objections mentioned before did not prevail. Dr. Teter, of Cleveland, says that he can keep a patient under sufficiently by administering the gas through the nose if considerable pressure is employed in the gas container, and the valve in the nose piece is held down tightly.

Ether is here undoubtedly the anesthetic most used, and the warmed vapor methods are particularly indicated. The safety, the lack of mucus, the ability to give the vapor through a tube so that there is no interruption of the operation, the clearing of the anesthetic apparatus so largely from the field, all commend its use. We thus get all the advantages of chloroform without its dangers.

Position is important with reference to these cases. I wish here to protest against all of the sitting or half-sitting postures which are sometimes used. It is generally known that the sitting posture is alone a source of danger in anesthesia, and is made still more dangerous because most of these cases are children, who as a class do not take anesthesia as well as adults. More objectionable than this, however, is the danger of inhalation of blood, mucus, tonsils, teeth, adenoids, etc. If the whole operation could be done between breaths, this objection would not obtain, but to attempt to do a throat operation, except perhaps that for adenoids or the extraction of a couple of teeth, in that time is absurd if done after the type of thoroughness which is demanded by our best men to-day.

I believe that the horizontal position is the only one which should be used in these cases. With the patient on one side the head drops sufficiently to make the bleeding points all so low that the débris runs out through the mouth instead of into the trachea. It allows free breathing even during hemorrhage. It makes frequent turning of the patient unnecessary. It

allows the operator ten, twenty or as many minutes as he wants, with perfect safety; and with plenty of time I have observed that much neater work is done than where haste is made necessary on account of lack of anesthesia.

This position also allows complete anesthesia, which I think is desirable in throat work, as it keeps the throat free without the patient coughing up the débris. I believe that deep anesthesia is safer in the horizontal position than light anesthesia in the sitting posture. The operator is also spared from the annoyance of gagging, vomiting and coughing.

The next best position is a dorsal one, with the head over the end of the table.

In Kalamazoo ether is used almost exclusively in nose and throat work. Even some dentists are using the warmed ether vapor in preference to chloroform. The Gwathmey Inhaler, or some modification of it, is used by our nose and throat specialists in preference to all other methods. The mask is used until the patient is thoroughly under, and then is changed for the bent tube which is placed in the mouth during the operation. The writer uses the ordinary paper cone instead of the Gwathmey mask, and likes it better. The horizontal-lateral position is used almost exclusively.

In small children ether is given without preliminary medication or gas, and they are usually forced under, which is in contrast to the practice in adults, where it is given slowly. Personally I am opposed to operating upon small children without anesthesia, the same as I would be to operating upon adults without it after strapping them down firmly to a table so they could not interfere. I believe that with the above methods, any child who can stand an operation can be properly anesthetized for the same.

In that class of throat cases suffering with stricture at some point in the throat or trachea, I should recommend the use of rectal anesthesia, as this prevents any chance of the accumulation of mucus which might obstruct the already narrow opening, and is certainly more satisfactory than to introduce a tracheotomy tube for anesthetic purposes.

DISCUSSION

Dr. E. J. Bernstein, Kalamazoo.—I was unfortunate in not hearing the first part of the paper. We are all interested in the question of anesthesia. One thing is evident to most of us. I think the day has possibly passed when we have such a thing as chloroform men and ether men. The question is not so much the kind of anesthesia as it is a question of the kind of anesthetist. I believe it is becoming more and more an accepted fact to those of us who do operations, that it is more and more choice as to the anesthetist. It is largely a matter of judgment where chloroform should be used and where ether. Both have their indications and both have their contraindications. The essayist is correct when he says that we must insist and insist that chloroform shall not be used in adenoid and tonsil operations on children. All the deaths by anesthesia in adenoid children have resulted from chloroform anesthesia, and it is, as Dr. Boys has told you, due to this well-known lymphatic tendency. I have had considerable experience with Dr. Boys' anesthetizing, and I am going to say that I want the skilled anesthetist every time I do an operation.

The question as to the posture of the patient is a very timely one. I think it is almost criminal to-day to think of operating on patients in the upright position for throat and nose operation. The question of comfort of the operator should be of secondary consideration; he must learn to adapt himself to the horizontal position. The question of safety to the patient should be the first consideration and the comfort of the operator the second.

A PROPOSED SOLUTION FOR CERTAIN PHASES OF CONTRACT PRACTICE*

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There is an old saying, quaint and homely, noted more perhaps for the truth of its philosophy than for any consolation that may be derived from it, which runs thus, "What can't be cured must be endured." The absolute fundamental truth contained in this saying probably explains why all nature ever tries to make the best of a bad situation or condition. With the above sentiment in mind, I desire to approach and briefly discuss some phases of Contract Practice as we find it among us to-day.

To enable me to bring clearly before you the varieties of Contract Practice that I desire at this time to discuss, I shall divide the subject into two classes. The first I shall call the Semi-legitimate or Tolerable class, the second the Non-legitimate or Intolerable class. The first includes all industrial forms of Contract Practice represented by railroads, mines, factories, etc., where workmen, and workmen only, are treated for the injuries and accidents that occur to them while in the legitimate discharge of their duty. The second includes Insurance, Lodge and all Non-industrial forms of Contract Practice, which being devised, originated and conducted primarily to benefit a third party, are intolerable and will not be discussed in this paper.

Among the forms coming under the first division in this classification probably the least objectionable is that of railroad and mine practice. Many of these companies realize that a certain percentage of accidents will inevitably occur, and from a purely altruistic motive, with no additional expense to the men, nor draft on wages paid, employ a surgeon or surgeons to dress and otherwise care for these injuries.

Real progress is only made by directing all one's energies or forces to a single proposition, or if the proposition is large, as in this case, then to a single phase of it, until a solution of that phase is reached. Therefore this paper will discuss only those forms of industrial Contract Practice represented by such factories and shops as deal with casualty companies, which, for a consideration, in the form of a premium, engage to furnish surgical attendance, for a given period, to the men injured in said factories or shops, while in discharge of their duty.

This presents the subject squarely before us. To intelligently pass upon it, it will be necessary to consider it from the standpoints of, first, the workman; second, the factories; third, the casualty company; fourth, the surgeon.

First. The men of any factory or shop have an undoubted right to band together and create a fund to be used for the care of their injured members, or for any other purpose they may choose, and to delegate the care and expenditure of such fund to a committee of themselves, or to a Casualty

*Read before the Calhoun County Medical Society, December 16, 1910, at Battle Creek,

Company indeed, if they so wish. Surely it is to their interest if by such union more professional services can be obtained.

Second. It is certainly to the interest and advantage of factories and shops that all injured employees receive competent and skillful surgical attendance, because of the favorable prejudice this produces among the men and secures in damage suits that sometimes follow.

Third. Casualty Companies are established, conducted and controlled on purely mercenary and selfish considerations, which they try to make themselves and others believe are business principles. Their interests are to get all they can from the men, and pay as little as possible to the doctor.

Fourth. The surgeon, in common with other citizens, is interested in promoting the general wealth of the country or nation. Shortening the period of idleness injured employees must undergo will aid, but professional service even in this just cause should have honest remuneration. Humanity demands proper care. The profession furnishing that care may properly concede reduced rates, but can never consent to a third party benefiting by such concession. No part should ever find its way into the coffers of a Casualty Company; the injured workman should get it all. Doctors must unite to deal with these companies on equal footing, otherwise the companies will continue to play one individual doctor against another, always to the disadvantage of the doctor.

That the energies of the organized profession should be entirely directed to educational and scientific advancement is ideal, but lay organizations take advantage of this, and continue to fleece our individual members unmercifully. In self-protection, then, it would seem wise for County Societies to elect committees whose duties should be to arrange terms and fees with workmen and factories, whereby injured employees would be cared for by members of the County Society. A concession in fee rate should be granted, and a guarantee of payment obtained.

Such an arrangement would secure to the injured employee his choice in professional services available in his community, and ensure to the surgeon his entire fee instead of merely for his first call.

Advantages, first, to the patient: Assurance of interested attendance throughout the entire case.

Second, to the factories: Assurance that the injured would receive competent surgical aid.

Third, to the doctor: Assurance of not being robbed of professional acquaintance that he has labored years to establish.

SURGICAL SUGGESTIONS

When the appendix is so placed that its tip is not readily delivered the "retrograde" removal of the organ is often the simplest and safest method.—*American Journal of Surgery.*

When dressing a freely suppurating wound of one of the extremities it is much better to apply the gauze in flat pads than in circular turns. Soiled gauze wound about an extremity cannot well be removed in a cleanly fashion; and, too, circular turns tend, by spreading the pus over the skin, to set up a pustular dermatitis.—*American Journal of Surgery.*

The injection through a ureteral catheter of sterile olive oil against or, preferably, behind a small stone lodged in the ureter very often determines its expulsion into the bladder.—*American Journal of Surgery.*

A malarial seizure accompanied by vomiting and abdominal pain may simulate appendicitis, cholecystitis, or other acute intra-abdominal lesion. A leucocytosis even of 20,000, does not gainsay the malarial diagnosis.—*American Journal of Surgery.*

The Journal of the Michigan State Medical Society

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Wilfrid Haughey, A. M., M. D., Editor, 24 West Main Street, Battle Creek, Michigan. The Society does not hold itself responsible for opinions expressed in original papers, discussions or communications.

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JANUARY

EDITORIAL

Your Committee recommends, that on May first of each year the Journal of the State Society be discontinued to all subscribers and members in arrears and that such members be reported to the Secretary of the American Medical Association as "dropped for non-payment of dues."—*Report of Business Committee unanimously adopted by House of Delegates.*

MEDICAL DEFENSE

TO some of our readers the above caption may suggest an overworked, overdiscussed subject, but to many it will mean more light upon present vexations. We have been requested to again explain the Medical Defense plan as adopted by our State Medical Society, and beg the indulgence of those who already thoroughly understand it, but request them to follow us for five minutes. We may have some new way of expressing an old subject, and then again there may have been some new developments, which is the case.

The Michigan State Medical Society has recognized the fact that its members are liable to suits for civil malpractice, whether just or unjust, and insists that its members shall have a proper defense in the courts. At the Annual Meeting held in Kalamazoo, September, 1909, a plan of defense was adopted embodying the following features:

The project is for all members of the State Society, except in those counties which vote not to avail themselves of the privileges of the Medico-Legal Fund, consisting of an initial assessment of one and one-half dollars from each present and future member of the Society, and a subsequent assessment of one dollar for each year after the first. At the Bay City meeting this was changed by striking out all reference to a special assessment, raising the dues to the State Society to three dollars, and giving defense to every member of the Society in good standing.

A competent firm of attorneys is engaged by the year at a fixed annual retainer. Their duty is to compile from all available sources court decisions fixing the law of liability of physicians for civil malpractice, such compilations to be the property of the Society, and also to defend any member of the Society not in arrears, when sued or threatened with suit for civil malpractice, regardless of the time when the alleged cause of action arose, and also to defend any action for civil malpractice against the estate of a deceased member, provided he or she, while living, has conformed to the foregoing requirements.

In the event that during any one year the demands upon the Medico-Legal Fund be large enough to exhaust it, the Council is authorized to loan sufficient funds from the treasury of the State Society to meet the contingency.

All attorneys' fees and court costs will be paid from the Medico-Legal Fund, and defense carried through all Michigan courts, but under no circumstances shall the fund be liable for any damages declared against an unsuccessful litigant.

Malpractice suits may take the form of out-and-out suits for civil malpractice, counter claims entered to escape paying a bill, or suits for damages. The law provides that a doctor shall possess the average amount of skill possessed by doctors in communities similarly situated, and that

he shall render to his patient reasonable care and attention. The determination of what constitutes medical malpractice rests almost entirely upon court decisions. To successfully defend such a suit, the attorney must be familiar with all the decisions, both favorable and adverse, touching upon any phase of the subject, and he must know these decisions, whether rendered in this State or in others.

Medical malpractice cases are fairly frequent, but not so frequent that all attorneys, or many even, can afford to prepare themselves for such cases, and keep themselves so prepared. If such a case falls into an attorney's hands, he must spend months reviewing court decisions, briefing them, assembling them, and preparing them for court use. This work is extremely arduous, and makes these cases an expensive luxury.

By combining our forces, and acting through the State Medical Society, we are enabled to engage attorneys by the year, and pay them a sufficient retainer so that they may keep themselves experts—so that they can brief the law as it relates to medical malpractice in all its forms, and keep this brief up to date. By doing this, and having this brief ready for use in court on short notice, we are enabled to cut the cost of defending these cases to the actual court costs and local attorneys' fees, all of which can be done at a small cost to the individual member. We furnish the machinery for defense, and guarantee to the defendant all the protection to which he is rightfully entitled, but he must secure his witnesses, the ordinary fees of which we pay. The defendant must do this whether we defend him, whether he defends himself, or a commercial company defends him.

We believe our plan is sound; we have so much faith in it that we are depending entirely upon it for our defense. During the year 1910, the first year of this work in our Society, we had about ten cases threatened, none of which have come to trial and only one of which will actually be defended in court. This means a percentage of 90, as a prophylactic measure. As soon as people learn that the State Medical Society will furnish the working defense, insisting that the defendant gets his just rights in court, these cases are usually dropped. A large majority of these cases are started in the hope of the victim settling for a few hundred dollars, rather than facing the expensive defense. This graft is removed.

OPPOSITION TO OUR DEFENSE PLAN

THE agents of at least one commercial company, we are told on good authority, are spreading the startling information throughout the State that there are so many malpractice suits now in actual progress that to pay for their defense would take several times the amount of money the State Medical Society will raise. If this were true it would mean the premature end of our defense plan, but these agents tell only part of the truth.

The expense to the individual of defending a malpractice suit is the amount which the attorney thinks he can collect, and this is the expense quoted by these agents. If the commercial companies did not have the same advantages we do as a Society, they would be bankrupt. But banded together as we are, our Society can and does pay a leading law firm a fixed annual retainer to brief the law and supervise the work of the local attorneys. This firm has all court decisions relating to medical malpractice always ready to be used in any court in the State. It will readily be seen that this removes the item of greatest cost in defending such suits, and leaves simply court costs and local attorneys' fees. All local attorneys are engaged by our general attorneys and paid regular per diem fees, rather than the inflated ones which a suc

cessful lawyer might think he could collect from his happy client. Our By-laws provide that if in any year the defense fund becomes exhausted, the Council may loan sufficient funds from the treasury of the State Society, thus giving us additional resources.

Now why are the commercial companies trying to foster doubts as to the efficiency of our plan? They are making a business of doing the same work, in the same way we are now doing it, and for profit, charging ten to fifteen times as much for the services. If mutual plans prove successful' a large slice will be cut out of their annual "melon." This same state of affairs obtains in some fifteen or twenty states where the State Medical Society is successfully defending its members from civil malpractice in its various forms.

One can readily see that with their field being invaded in such a wholesale manner, the Commercial Medical Defense Companies must either stop the progress of this move, or go into other business soon. Fifteen or twenty states being removed from their territory is alarming, and these companies may be expected to hold on to every risk they have, and not be too particular about the method used.

It is hopeful that our members will watch the working of this plan of our State Society for another year or two at least, before they listen seriously to all the cries of "wolf," especially when so many other states had carried this plan to a successful issue before we began it, and especially when it "sounds so good" that nearly twenty states are with us in this newest activity.

Almost 75 per cent. of the money collected for Medical Defense in Michigan this first year remains in the treasury as a sinking fund. Does this look like bankruptcy?

THE MICHIGAN STATE BOARD OF REGISTRATION IN MEDICINE

IT is gratifying indeed to learn the unanimity with which our members are supporting the plan of relief for the State Board which was proposed at Bay City.

This plan is in use in several of our states, more or less completely, and is in use in this State in the case of the State Board of Health, the Bar examinations, etc.

The Legislature will soon convene, and our Legislative Committee will present our plan to them for action. It behooves every member of our Society to keep on the alert, urging his representative and senator, in season and out, to support this measure. Do not let the other fellow do all the work. Interview the Legislator yourself. Write him after he has gone to Lansing, get your friends to write him. Let us go after this thing in such a way that we succeed in getting it, and let us place the Michigan State Medical Society upon the map of "live ones."

EPIDEMIC POLIOMYELITIS

REPORTS from the State Board of Health show over one hundred cases of acute epidemic poliomyelitis, or infantile spinal paralysis in the State. This disease is attracting much attention now and should be carefully studied by the practising physicians of our State, to the end that early and more accurate diagnoses may be made. The disease is now considered an epidemic infection. The germ responsible for it is as yet unknown, although some investigators have made glowing reports, and have thought they were successful in the search.

The treatment is also unsatisfactory, but it is well for the doctor to be able to make the diagnosis, and to warn the patient or his parents of the probable outcome. We expect to publish a paper on this subject

in the near future, and recommend it to your attention.

ANNUAL MEETING OF THE COUNCIL

THE annual meeting of the Council will be held at Battle Creek Wednesday, January 11th, at 10:30 A. M. At this meeting the Legislative Committee of the State Society will present the proposed amendments to the medical law, placing the State Board of Registration in Medicine on a firm footing financially. This proposed legislation will be considered by the Council and the Legislative Committee, and will be so written that it can go to Lansing with the full endorsement of the State Medical Society.

There will be considerable other business to be transacted by the Council at this meeting, as there always has been at the January meeting. This is the most important meeting of the Council during the year, and always has been well attended. On account of the legislative business that is to come up this time, it is hopeful that besides the whole Council there will be in attendance the whole Legislative Committee.

PASSING OF THE YEAR 1910

IT is a time-honored custom for journalists to summarize the passing year, writing of the progress it has brought.

In our Society, a number of things have happened. We have put into force, and successfully, a plan of defense of our members against medical malpractice.

We have become incorporated, and have removed the principal office and place of publication of the JOURNAL to Battle Creek.

We have seen the death of the oldest of our ex-presidents, and of a former treasurer.

We have seen the elevation to deanship in one of our foremost medical schools of a former councilor of our Society.

We have continued our work of encouraging the systematic examination of the eyes and ears of school children, and advancing the campaign against tuberculosis.

We have continued our work in general for the betterment of ourselves, our patrons and our neighbors.

This and much more has been accomplished during the passing year. What will the new one bring us?

AN EPIDEMIC OF LEARNING

SELDOM do we find educators who have properly diagnosed the trouble with our present system of public instruction. That there is something wrong, the foremost thinkers will admit. Several editorial articles have appeared in Medical Journals recently touching to an extent upon this subject, but Prof. Nadal, in his address to the Calhoun County Medical Society, has very clearly and forcibly called attention to this condition, not only pointing out the errors, but suggesting a remedy. The address is of especial interest to medical men, because it touches so closely upon their field. Read it as abstracted on page 37.

A MEDICAL SOCIETY HOME

A HOME owned and controlled by a Medical Society adds enormously to the interest of the members. Some County Medical Societies in some of our states are so fortunate as to have such homes, and they all report that it adds to the attendance at meetings, affords a library and a meeting place, and in general adds to the uplift of the Society.

Some of our Michigan Societies approach to this enviable possession. Tri-County Medical Society takes care of the indigent of Cadillac and Wexford County, and with part of the money so received rents a per-

manent meeting place where their meetings are held and where the members may meet between times.

Kalamazoo Academy of Medicine is more fortunate. They had a philanthropic member, Dr. Van Deusen, who gave to the city a public library, in which he set aside two beautifully furnished rooms for the free, exclusive, and perpetual use of the Kalamazoo Academy of Medicine. Here the Society has its regular meetings, and its library, and here the members are privileged to go at any time they please for study, for conference and consultation, or for relaxation.

During the past year Wayne County Medical Society has purchased a home, a whole building at 33 East High Street, as has been mentioned in our news columns. This building is owned and controlled by the Society, and although only opened in September, has already become the medical center in Detroit. All the meetings of the Wayne County Medical Society, and the meetings of the special Medical Societies and Academies of Detroit, are held in it. The Society has already established a library of several thousand books and bound volumes, and receives regularly the leading Medical Journals of this and foreign countries.

The building serves as a club, having a café where doctors may get their lunch, where smokers may be given, and where the members may meet on free and easy terms one with another. The building is a home for the Detroit Clinical Laboratory, and last but not least the Nurses Committee has succeeded in placing a Central Registry of Nurses in this building. The registry, under the supervision of the Nurses Committee of the County Society, will be conducted by the registered nurses, but will have on call all the trained and practical nurses of the city. For the convenience of the doctors both in the city and out, the nurses will be graded as to price, and as to their work, whether surgical, medical, nervous, ophthalmic or obstetrical. Members of the Wayne County or Michigan State Medical Societies wishing a nurse are urged to make use of this newest innovation.

It would seem as though other County Medical Societies might also establish homes, and make these homes real live Medical Centers in their county.

COMMUNICATIONS

TO THE EDITOR:—

It may be of interest to you to know that during our recent epidemic, vaccination "took' in a number of people who had previouslv had smallpox. One case was that of a local physician. A nurse who had smallpox five years ago. and considered herself immune, was nursing smallpox patients, and contracted a severe form of the disease.

Yours sincerely,
W. J. O'REILLY.

Saginaw, Dec. 7.

COCCYODYNIA FROM SACRO-ILIAC STRAIN

EDITOR JOURNAL MICHIGAN STATE MEDICAL SOCIETY:—

After reading Dr. Young's instructive article in your December issue, in which he advocates excision of the coccyx in many cases of coccyodynia, I feel inclined to mention in addition strain of the sacro-iliac joints as a frequent cause of coccyodynia.

Pain in the coccyx from this cause is to be explained by the proximity of the internal pudic nerve to the sacro-iliac joint in its course to the perineum, and by the reference of pain through this route, in the same way that sciatic pain from sacro-iliac strain is to be explained by reference through the lumbo-sacral cord.

It is of course reasonable that certain cases require excision of the coccyx, for morbid conditions within the coccyx, but it is equally doubtless that in some—perhaps many—cases, removal of the coccyx does not remove the pain, and it always involves structural damage. The question therefore will often arise whether the pain is

local or referred. Local tenderness alone does not prove that the trouble is local. If there is no evidence of local trouble other than tenderness and if there is no outside cause manifest except sacro-iliac strain, as suggested by tenderness over one or both of the easily palpated sacro-iliac joints, the coccyodynia is probably of sacro-iliac origin. If there are the other symptoms and signs of sacro-iliac strain, this probability is increased. In all doubtful cases it seems to me wise to try the result of adequate artificial support and treatment of the sacro-iliac joints. Such treatment will postpone operation, if needed at all, not more than two weeks, and certainly do the patient no harm.

What I have written is really in emphasis of Dr. Young's plea for careful study of these troublesome cases, and I cordially agree with him concerning the importance of accurate diagnosis and appropriate treatment.

Very truly yours,

W. E. BLODGETT.

602 Fine Arts Bldg.,
Detroit, Dec. 1, 1910.

COUNTY SOCIETY NEWS

BAY

The annual meeting of the Bay County Medical Society was held at the residence of the President, J. W. Hauxhurst, Monday evening, December 12. A six-course dinner was enjoyed at 6.30, after which the following officers were elected for the ensuing year: *President*, Dr. R. C. Perkins; *Vice President*, Dr. C. A. Stewart; *Secretary*, Dr. H. N. Bradley; *Treasurer*, Dr. C. H. Baker, all of Bay City.

The paper of the evening was read by Dr. E. W. Haas, of Detroit, on the subject, "The Hypophysis and Acromegaly." After a few introductory remarks on internal secretions in general with a classification of the organs which have an internal secretion only and those which have both an internal and external secretion, the doctor took up the hypophysis in its relation to acromegaly. He showed that if there is no macroscopic change in the pituitary body accompanying acromegaly, there are always microscopic changes. He reported a case of typical acromegaly which showed some specially interesting features, one of which was supra-clavicular gland, the pathology of which is an enigma to all pathologists who have seen it. He showed X-ray plates of the extremities and head, the latter showing an erosion of the sella turcica. The curative treatment of this case should be surgical with pituitary extract, but has not been satisfactory.

H. N. BRADLEY, *Secretary.*

CALHOUN

The 34th annual meeting of the Calhoun County Medical Society was held in the rooms of the Industrial Association, Battle Creek, December 6, 1910. Some thirty-six members were present, President H. A. Powers presiding.

A glowing tribute was paid the memory of Dr. S. S. French, one of the few surviving charter members of the Society, who died September 10, 1910, in his ninety-fifth year. Dr. J. C. Brown paid homage to Dr. French as the physician, Dr. W. H. Haughey recounted his success and practicability as a surgeon, and Dr. A. W. Alvord, ex-President of the State Society and comrade in arms with Dr. French, gave us a glimpse into his civil and martial life.

The Scientific Program consisted of papers by Drs. C. G. Darling, of Ann Arbor, and W. H. Haughey, of Battle Creek, and a demonstration by Dr. R. B. Canfield, of Ann Arbor.

Dr. Darling's paper, "Actinomycosis in Michigan," outlined histories and treatment of a number of these cases cared for at the University Hospital.

Dr. Canfield demonstrated the use and practicability of the bronchoscope and gastroscope.

Dr. W. H. Haughey's paper, "A Proposed Remedy for Some Phases of Contract Practice," (see page 29), outlined the evils of that work and proposed some measures for its correction. Owing to the lateness of the hour the discussion was postponed to the March meeting.

In the annual election of officers for 1911, Dr. W. C. Marsh, of Albion, was unanimously chosen President; Dr. R. D. Sleight, of Battle Creek, Vice President; Dr. A. S. Kimball, of Battle Creek, Secretary and Treasurer (re-elected); Drs. Brown and Alvord, delegates to the State Society, and Hafford and Abbott, alternates. Dr. A. W. Alvord was re-elected member of the Medico-Legal committee.

Drs. H. E. Grant, of Albion, Guy MacFarland, A. R. Smeck, and A. C. McCurdy, of Battle Creek, were elected to membership.

The March meeting is to be held in Albion. A special meeting to hear Dr. Sam'l G. Gant, of New York, will be held December 29th at the Sanitarium.

The meeting adjourned to the annual banquet given at the Athelstan Club Rooms, where, after a few remarks about our State Society work by the State Secretary, Dr. Wilfrid Haughey, Professor Thomas W. Nadal, of Olivet, the guest of honor, spoke in part as follows upon the text. "An Epidemic of Learning."

"There exists a very serious pathological condition in our modern educational system. Our school-boys and school-girls are the helpless victims of an insidious and widespread disease. Some of its symptoms are loss of appetite for play, inordinate love of books, morbid craving for promotion cards, temporary aphasia when asked any question not answered in the book, incipient mental locomotor ataxia due to a failure to co-ordinate facts. The patient is suffering from an acute attack of 'eruditis,'—an epidemic of learning. Some wise school boards have quarantined against it. A few sensible parents have inoculated their children with the vaccine of old-fashioned home-made learning, and thus rendered them partially immune. But for the most part there is no protection, and the ravages of the epidemic go on unchecked.

"In the first place, many of our children are sent to school too young. The kindergarten, with all its commendable features, is in many instances being worked too hard. The children are entertained until their interest is fatigued. When they leave the kindergarten for the public school nothing is novel or fresh to them. They insist on their accustomed program of entertainment, and the primary teacher faces a very serious problem. A primary teacher with several years of experience in the Indianapolis schools, told me that she had always found children from the kindergarten hard to interest and without the eagerness and freshness which characterized the children who had never been in kindergarten. These later, she said, invariably outstripped the others in their progress. It is a sad mistake to set our children to tasks of learning at so early an age. A child of the lower grades that leaves its play for its books, shows a pathological condition which calls for treatment.

"But not only are many of our children sent to school too young, they are subjected to unrational processes of education inherent in the system itself. The condition of the modern school-boy is not radically different in many cases from that of the unfortunates in old Doctor Blimber's school, in which, we are told, there was 'a forcing apparatus incessantly at work. All the boys bloomed before their time, mental green peas were produced at Christmas, and intellectual asparagus all the year round. No matter what a young gentleman was intended to bear, Doctor Blimber made him bear to pattern somehow or other.'

"Our children are crowded by teachers and driven by parents until their education consists largely in getting stuffed with cyclopedic facts and becoming crammed with book information which they must be able to diagnose whenever the proper stimulus is applied. No wonder the child suffers acute mental indigestion, filled with this undigested and unassimilated pabulum of knowledge. His intellectual stomach is bewildered with such a mass of facts that it is unable to digest and convert them into the blood of thought. This is why there are so few red blood corpuscles found in the thinking of the young American. He is mentally anemic. You cannot get at his knowledge by feeling the pulse of his thought. There is only one way of testing the quantity of his learning, and that is by the use of an examination emetic. Give the student a history emetic and up comes a long series of undigested dates just as they went down. A mathematics emetic produces tables of weights and measures, and a Latin emetic brings up a mass of tangled and unsprouted roots. A little educational Fletcherism would be an excellent thing.

"Another defect in our system is the attempt to make all our boys and girls 'bear to pattern.' We have constructed the same educational mould for all our children. The school is a kind of procrustean bed which the child is made to fit, willy-nilly. All students of the public school are prepared for the high school, and the high school course is planned with direct reference to the college, although but a very small percentage of public school children ever get into high school, while a still smaller percentage of high school students ever get into college. Our system must be made more elastic, and each patient must be treated according to his individual needs. The child should be educated to meet the condition of the life he is to live.

"But even worse than false ideals of education is the price now paid in health and physical life

to meet those ideals. When children under ten years of age grow sleepless over a promotion card, and are brought to the verge of nervous prostration mourning over a school examination, it is time to call a halt. The life of the child, until it reaches its 'teens, is pre-eminently physical, and any system of education which ignores this fact is fundamentally wrong. Many boys and girls of the high school are likewise making physical wrecks of themselves in order to meet certain so-called educational ideals. The testimony of a half-dozen parents taken at random in different parts of the State within the last three days gives striking though pathetic proof of this statement. If this condition continues it will lead eventually to a race of men and women with much learning, but little knowledge; to a race of physical degenerates whose vitality has been burned out in its youth, and which has become incapacitated for its own reproduction.

"The remedy lies in a new ideal of education, an ideal which does not consider the child merely as a specimen to be stuffed; but which declares that the purpose of all education is to train the child for efficient citizenship, and to give it the best chance in life. To know as a mathematical theory that a straight line is the shortest distance between two points is not so important to the national soldier as the ability to measure that distance with a rifle ball demanding a clear brain, keen eye, and steady hand; to know the law of gravity by which water runs down hill, is not so important to society as the mechanical skill for constructing the hydraulic ram to make it run up again; to know the chemical formula for water is not so important to any individual as to know how to keep his head above water if upset in a boat.

"The education of the future must become more vocational, and must put ever increasing emphasis on the physical development of the child. The playground and courses in manual training are the most hopeful and most progressive factors in modern education. But we must go further still. Every school child should be examined on entrance by a competent physician. There should be a regularly employed teacher of physical culture. The grade cards should have a 'health' column and the students should be graded in health as well as in mathematics. The complete development of the child, physically, mentally and morally, must be our educational ideal and the definite objective of every rational school system."

A. S. Kimball, *Secretary.*

CHIPPEWA

The annual meeting and banquet of the Chippewa County Medical Society was held December 7th at the Park Hotel, and is pronounced by the fourteen members in attendance to have been one of the most enjoyable and instructive sessions ever held by the medical fraternity of the county.

Dr. Griffin read an exceptionally able paper on "Smallpox," the subject being a most timely one by reason of the prevalence of the ditease in the State. It was handled in a manner that was both interesting and instructive, and showed that the doctor had made a thorough research of the subject. A free discussion of the disease followed the reading of the paper.

Reports of the Secretary and Treasurer were read, and showed that the Society was in a prosperous condition. The election of officers for the ensuing year resulted as follows: *President*, Alex. McDonald; *Vice President*, Clara O. Dedrich; *Secretary-treasurer*, I. V. Yale; *Delegate to State Medical Meeting* to be held in Detroit, J. Gostanian; alternate, Fred Townsend. *Medico-Legal Committee*, C. J. Ennis.

The banquet, which was held immediately following the business session, was presided over by Dr. George J. Dickinson, and toasts were responded to by every one about the board. It was an early hour in the morning when the festivities were brought to a close.

I. V. Yale, *Secretary.*

GRAND TRAVERSE

The regular meeting of the Grand Traverse-Leelanaw County Medical Society was held December 6, in Dr. M. S. Gregory's office.

Minutes of last meeting were read and approved. Dr. Miner appointed Drs. Gregory, Thurtell, and O. E. Chase on the program committee; Drs. Martin, Moon and Wilhelm on the membership committee. It was decided to have the program printed for the year.

A motion was carried to entertain the Ninth Councilor District societies, the date to be announced later.

Dr. Gregory read a very interesting paper on Corneal Ulcer, which was followed by a general discussion. The Society adjourned to meet in Dr. Thurtell's office next month.

R. E. Wells, *Secretary.*

JACKSON

The annual meeting of the Jackson County Medical Society took place in the afternoon of

December 1, 1910. The newly elected officers are: *President*, Dr. E. C. Taylor; *Vice President*, Dr. L. J. Harris; *Secretary*, Dr. G. A. Seybold; *Treasurer*, Dr. P. Edwards; *Delegate*, Dr. J. C. Kugler; alternate delegate, Dr. C. D. Monro.

Dr. J. C. Kugler, the retiring President, read a very instructive and interesting paper on "The Internal Secretions," Dr. C. B. Burr, of Flint, read a paper on "Diagnosis of Insanity by the General Practitioner," and Dr. Herman Ostrander, of Kalamazoo, read a paper on the "Treatment of the Insane." A case was presented by a local physician for diagnosis and treatment. Drs. Burr and Ostrander brought out many valuable points in the case.

In the evening a banquet was served in the Episcopal Guild House. Dr. Kugler acted as toast-master, and the following toasts were responded to: "The Specialist, European viz., American," Dr. C. B. Burr; "Nerves," Dr. Herman Ostrander; "The Doctor's Relation to the Church," Rev. B. Smits; "Our City," John T. Henigan, city attorney.

Rev. Maywood, pastor of the First Methodist Church, and Rev. Poole, pastor of St. Paul's, were present at the banquet and were called upon to speak.

G. A. SEYBOLD, *Secretary.*

KALAMAZOO ACADEMY OF MEDICINE

At the annual meeting held December 13th, the following officers were elected: *President* J. H. Crosby, Otsego; *First Vice President*, Dr. L. H. Stewart, Kalamazoo; *Second Vice President* Dr. L. E. Clark, Otsego; *Third Vice President*, Dr. F. C. Penoyer, South Haven; *Secretary-treasurer*, Dr. C.E. Boys (second year of a 3-year term).

For vancancies on board of censors: Dr. A Hochstein, Dr. E. P. Wilbur, Dr. G. F. Inch.

Delegates to State Meeting: Dr W. F. Hoyt. Paw Paw; Dr. W. A. Stone, Kalamazoo. Alternates: Dr. J. C. Maxwell, Paw Paw; Dr. J. B. Jackson, Kalamazoo.

Librarian, Dr. E. J. Bernstein, Kalamazoo.

Dr. Hugh E. Smith, of Gobleville, and Dr. A. M. Giddings, of Augusta, were elected to membership.

Dr. Hochstein brought up the matter of the efforts now being made by the so-called "Society for Medical Freedom," and after much discussion it was voted by the Society to appoint two members from each county represented whose duty it should be to put the facts in the case before the legislators, that this movement may be seen in its true light.

The business meeting began at 10.30 A. M. At noon the members had informal luncheon at the American Hotel, where special tables were set for them. The afternoon meeting was called to order at 1.30, and the following program given.

1. Alcohol as a Factor in Mental Diseases. (Exaugural address.) Dr. G. F. Inch, Kalamazoo.

2. The X-ray Diagnosis in Diseases of the Accessory Sinuses and the Mastoid. Dr. E. J. Bernstein, Kalamazoo.

3. Exstrophy of the Bladder. Case presented and discussed. Dr. A. S. Youngs, Kalamazoo.

4. Why I Believe that all Physicians Should Take an Active Part in Anti-tuberculosis Work. Illustrated by stereoptical and moving picture films. Dr. A. J. Read, Battle Creek.

C. E. BOYS, *Secretary.*

MANISTEE

A special meeting of the Manistee County Medical Society was held at the Briny Inn November 10, 1910, at 7 P. M. Thirty members and guests sat down around the banquet table, and after having partaken of a very elaborate dinner, President of the Society Dr. Harlan MacMullen, in a very able and eloquent address, welcomed the guests to the meeting and banquet, and closed his address by introducing Dr. B. H. McMullen, of Cadillac, who read a very interesting and instructive paper on the subject, "Diseases of the Gall, Bladder and Gall Ducts."

Most of the doctors present took part in the discussion which followed the reading of Dr. B. H. McMullen's paper. After the interesting and very profitable discussion, Dr. James A. King, president and chief surgeon of "Salt City General Hospital," of Manistee, was called upon to say something relative to this new hospital, which had just been completed. The doctor spoke very enthusiastically of the present and future of "Salt City General Hospital," and closed by saying, that while the hospital was owned and managed by him it was to be open for every doctor in Manistee and vicinity to take their patients to this hospital.

A rising vote of thanks was given to Dr. B. H. McMullen for his valuable paper, and to the members of Mason and Benzie County Medical Societies who had honored the local Society by their presence at this meeting.

The annual meeting of the Manistee County Medical Society was held at Salt City General Hospital December 1, 1910.

Drs. J. F. Kelly, Lee A. Louis and A. Kerkland were received as new members of the society. The following officers were elected for the ensuing year. *President*, Dr. E. S. Ellis, Manistee; *Vice President*, Dr. C. A. Norconk, Bear Lake; *Secretary*, Dr. J. A. Christenson, Manistee; *Treasurer*, Dr. H. D. Robinson; *Delegate State Medical Society*, Dr. L S. Ramsdell; alternate, Dr. A. A. McLarty. *Member of Medico-Legal Committee*, Dr. James A. King.

DR. J. A. CHRISTENSON, *Secretary.*

MUSKEGON-OCEANA

Regular meeting of the Muskegon-Oceana County Medical Society was held with Dr. P. A. Quick, at the Occidental Hotel, Friday evening, November 18, 1910, at four o'clock P. M.

Members present: Drs. Quick, Oosting, Hotvedt, Eames, Hartman, Marshall, Sullivan, Williams, Denslow, Campbell, Cramer, Gamber, Powers, Chapman, Olson, Donelson and A. A. Smith.

Minutes of last meeting read and approved as read.

The matter of a Reference Library or Cyclopedia for use of the Society was discussed, and the Chair appointed Drs. Marshall, Williams and Campbell as a committee to look up this matter and report to the Society.

Dr. Boys, of Kalamazoo, gave the paper of the evening on the subject of "Obstetrics in the Home." The discussion was opened by Dr. Hotvedt.

Meeting adjourned to the dining hall to dinner. Discussion followed.

Annual Meeting of the Muskegon-Oceana County Medical Society was held at the office of Dr. Lucy N. Eames, Friday evening, December 2, 1910.

Members present: Drs. Denslow, Dockry, Oosting, Gamber, Campbell, Hartman, Eames, Donelson, Williams, Olson, A. A. Smith, Cramer, Griffin, Marshall, Powers and Chapman.

Minutes of last meeting read and approved as read.

Communications from Dr. Reuben Peterson read, regarding his coming to address the Society.

The Secretary was instructed to write to Dr. Peterson saying that the Society would be glad to have him deliver an address on January 20th.

Dr. Oosting reported that the objection raised against Dr. Brocke's joining the Society is learned to be unfounded.

Secretary's report showed receipts for the year, $170, disbursements, $162.55. Treasurer reported amount on hand $7.45.

Reports were accepted to be placed on file.

The Society proceeded to election of officers for 1911.

Election of officers resulted as follows:

President, Dr. Geo. S. Williams; *Vice President*, Dr. W. L. Griffin; *Secretary*, Dr. V. A. Chapman; *Treasurer*, Dr. Jacob Oosting; *Director for three years*, Dr. J. F. Denslow; *Delegate*, Dr. F. B. Marshall; alternate delegate, Dr. W. E. Dockry.

The retiring President has served this Society in that capacity for five consecutive terms.

Dr. Eames gave a talk on Vaccines, with demonstration of Method of Preparation of Vaccines.

General discussion and adjournment.

V. A. CHAPMAN, *Secretary.*

NEWAYGO

The regular meeting of Newaygo County Medical Society was held at Fremont, Michigan, several doctors from Muskegon visiting.

Dr. DeHaas read a paper on Bismuth Paste in General Practice. General discussions followed.

The annual meeting of the Newago County Medical Society was held at Fremont December 14.

The paper by Dr. Nafe, on Treatment of Scarlet Fever, drew a general discussion.

The election of officers resulted as follows:

President, G. G. Burns; *Secretary-Treasurer*, L. S. Weaver, alternate, S. B. Robinson; *Medico-Legal Committee*, N. DEHAAS.

N. DEHAAS, *Secretary.*

OTTAWA

The November meeting of the Ottawa County Medical Society was held November 8, at the office of Dr. H. Kremers, Holland.

Dr. R. J. Walker, of Saugatuck, read a paper on "Pernicious Anemia and Leukemia." The doctor gave a review of the physiology of the blood and a brief description of the Opsonin Theory as a prelude to his subject, "Pernicious Anemia and Leukemia."

Of the former he said, in part:

"In the primary, or essential anemias, no cause can be found. Butler places chlorosis as a primary anemia. Osler's latest work says, 'Chlorosis is a disease of unknown cause occurring only in young girls, usually between the ages of fifteen and twenty-five years, and producing moderately severe anemia.'

"Pernicious anemia is classed, I believe, by all as primary anemia. Perhaps some day a cause will be found. It attacks, more often, males of middle age, is chronic and usually fatal. There is, usually, a history of long standing and increasing weakness.

"There is dyspnea, marked pallor, little or no loss of flesh, skin of yellowish cast, and usually fever, HCl diminished or absent. There are periods of gastro-intestinal trouble coming and going without apparent cause, and a tendency to ulceration of the mouth.

MICROSCOPIC FINDINGS

"R. B. C. usually below 2,000,000, relatively high color index, great variety in size and shape of R. B. C.; W. B. C. normal or nearly so.

"The treatment is rest, diet, HCl, arsenic, etc. As a rule no great benefit can be derived from drugs.

REPORT OF CASE

"Female, age 35, very anemic, no loss of flesh, great exhaustion, ulcerated mouth, spells of gastro-intestinal indigestion. For years has had severe uterine hemorrhages. The temperature often running to 100° or 102° and occasional cough. Examination of lungs negative. Heart murmurs very prominent, and heard over a considerable area of the chest. The pulsations of the abdominal aorta were so great that one physician diagnosed the condition as aneurism. Frequently she was annoyed by attacks of sore mouth or thrush, which, like her indigestion, was difficult to relieve. Her spleen was easily felt and much enlarged for a few weeks previous to death. After having had the case under daily observation for several months, Dr. George Dock hesitated making a positive diagnosis, but later pronounced the case pernicious anemia.

"This patient would continue losing strength for weeks or months, until there appeared no hope for improvement, when her digestion would slowly improve and she would tone up as gradually as she declined. This condition continued for about six years before death brought relief.

LEUKEMIA, MYELOID AND LYMPHATIC

"There is no known cause. In the early stages the patient is only slightly ill. There is some anemia and general weakness. Later dyspnea, gastro-intestinal troubles, edema, headache, vertigo, faintness, etc. There is an excess of uric acid in the urine, but the rheumatic symptoms are not very prominent. Sometimes the spleen, liver and superficial glands are enlarged. In other cases none of these symptoms appear until toward the end of the disease. In the more acute cases the disease may be confined to the marrow of bone and the lymphatic glands. There is usually chills and fever (resembling typhoid), and later hemorrhages occur. Duration from ten weeks to six months. A diagnosis with the microscope is easy; without it, impossible. Under the microscope we find a very great and constant increase of leucocytes, with later in the disease anemia.

"Treatment: Use the X-ray over the spleen, enlarged glands and ends of bones. Internal medication is a great disappointment."

REPORT OF CASE

Diagnosis confirmed by Dr. Brower, of Rush Medical College.

Patient, male, age 28. Came to me in June complaining of weakness. He thought he was bilious and so did I. Gave calomel. In July, after having prescribed for him several times with apparent benefit, he was stripped for examination. The liver was enormously enlarged, reaching below the navel, and extending to the left so as to be continuous with and inseparable from the spleen, which was only a little enlarged. The highest temperature 99°, pulse average 90. I now thought the case hypertrophic cirrhosis. He gave a history of having had malaria, so calomel and quinine were given. In August, after a sickness of six or seven weeks, the superficial glands and spleen began to enlarge, and, suspecting leukemia, a microscopical examination of his blood was made. There were 1 W. B. C. to 10 R. B. C.'s. Patient sank rapidly, became jaundiced, had hemorrhages, and died August 22, less than ten weeks from the time he first thought himself sick. It is unusual to have the liver enlarged to such an extent before enlargement of the spleen and superficial glands.

DISCUSSION IN PART

Dr. Kremers.—We all have more or less experience with the anemias, and more especially with the secondary form. In pernicious anemia, iron and arsenic may be given with some benefit, but there is not much to be done. My experience is very limited in leukemia, or else I have never accurately diagnosed my cases.

Dr. DePree.—I wish to report a case occurring three years ago. Patient bedridden. Did not look anemic, well nourished, complained of pain under border of ribs on both sides. Feared malignancy. No fever, digestion good. Haemoglobin 60%. Gave bitter tonics and blaud 5 to 15 grains after meals, and patient improved.

Dr. Donker.—I saw a case of leukemia a

short time ago, and one week before death. Patient very weak, liver and spleen greatly enlarged. Boardlike rigidity of the abdomen. Diagnosed as myelogenous form. Another case had hemorrhage from gums, and abdomen distended. In pernicious anemia the urine is of a low specific gravity.

Dr. Leenhouts.—The paper of Dr. Walker is a valuable aid in diagnosis, and, after all, that is the important thing. I should like to have him give the microscopic findings in the early stages of the anemias, and as between primary and secondary forms.

Dr. Brouwer.—Speaking of anemia, I have one case I would like to report. A young woman had two pregnancies and always becomes anemic during confinement, lasting for about three months after, two months of this time in bed, and the balance a semi-invalid. I always give HCl and a diet of raw eggs in milk in addition to the usual one. The lochia is always light and scanty.

Dr. Peppler.—I had a case within a year of pernicious anemia, and was fortunate enough to have an autopsy. This patient was pregnant—confinement and lochia normal, insisted on pumping breast to prevent conception, but child was weaned. She became waxy in color, had sore mouth, and gastro-intestinal troubles. I gave HCl and other acids, arsenic and hypophosphites, with a temporary improvement of three months. Five or six blood examinations showed pernicious anemia. At the postmortem the two kidneys were greatly enlarged, and she had a large jelly liver.

Dr. Walker.—In the secondary anemias remove the cause and give iron, arsenic and HCl. In all cases of anemia there is usually an absence of HCl. In reply to Dr. Leenhouts, will say it is very difficult to make a positive diagnosis early in the disease. If you have a low blood count, say below 2,000,000, and a high color index of 70 to 80%, you can be quite sure of a pernicious anemia. In leukemia the diagnosis is easy, but always make your examination under natural and not artificial light.

Dr. A. J. Brouwer, of Drenthe, read a paper on "Colds and Influenza, Etiology, Symptoms and Treatment." He said, in part:

"Cold is a vague term, and not thoroughly understood. Rosenthal advances a theory that the immediate effect of cold acting on the surface of the body is to excite contraction in the peripheral vessels, by which the blood is driven from the surface to the internal organs and acts there as an irritant, exciting inflammation. Schenck finds that warmth excites a movement in micro-organisms toward a center of warmth. He claims colds are divided into two classes,—one caused by bacterial infection and one not. Seitz theory is, that the ailments resulting from taking cold are due to the removal of heat from the external to the internal parts of the body. This causes some functional disturbance, which in turn gives rise to certain morbid processes in some parts of the body remote from the part immediately affected by the cold. There are three factors entering into the production of a cold: 1, low temperature; 2, air in motion; 3, moisture. To produce a cold, some portion of the body must be subjected to all of these for some time. Colds are most prevalent during the spring and fall, when the rainfall, temperature, and winds are very changeable. The exciting causes are sitting in a draught, wet feet, damp shoes, sudden changes of temperature, and insufficient clothing. Of all the various diseases a cold is the most common exciting cause, cold preparing the way for an infection.

INFLUENZA

"Synonyms: 1, catarrhal fever; 2, epidemic catarrhal fever; 3, grip; 4, la grippe.

"Influenza is an acute infectious disease characterized by fever, muscular pain, catarrhal irritation of any or all of the mucous tracts, especially the respiratory, and by great prostration. The term influenza is said to have been first introduced in 1441, when the disease was prevalent in Northern Italy. Later it was adopted in England and America. The more scientific term, 'epidemic catarrhal fever,' is used by most medical writers. Tyson claims that the disease is contagio-infectious rather than miasmatic infectious, the exciting cause of the disease coming from another person having the same disease. It travels only as fast as people. The direction of the prevailing winds is a strong point in favor of this opinion.

"Inoculations have, thus far, been unsuccessful, which is against its being of a contagious nature. In 1892 Pfieffer discovered a bacillus in the pus cells of tracheal mucus, which he supposed to be the cause of this disease. Butler and Holt, in their works, take it for granted that the Pfieffer bacillus is the true cause, while Tyson and Delafield and Prudden hold that the cause of the disease is not settled. It occurs in four forms: 1, simple catarrhal fever or nervous form; 2, epidemic catarrhal fever with prominent pulmonary affections, especially bron

chitis and pneumonia, or respiratory form; 3, catarrhal fever where the gastro-intestinal infections predominate or gastro-intestinal form; 4, typhoid form. The symptoms are due to the systemic effects of a general poison and to certain local congestions and inflammations which are regarded as complications. After an incubation of from one to seven days the disease may set in abruptly with chilliness or even a severe rigor, or with no chills at all.

"Another mode of onset is by an extreme and sudden prostration, so much so that a person walking may within a few hundred yards be unable to proceed any further or with great difficulty.

"In children there may be vomiting, fever from 100° to 105°, and with remissions from one to ten days. There is headache, pain in the eyeballs, and marked prostration. There is coryza, with watering of eyes and cough, and the special symptoms attendant upon the different forms."

DISCUSSION IN PART

DR. KREMERS.—"Only a cold." Most people die of colds. We are careless in diagnosis. In the epidemic of '89 I saw young, healthy adults die of pneumonia due to influenza. Those of you who have read Dr. Nansen's "Farthest North," will remember how he fell into water 40° below zero and had no bad effects. No bacteria, no colds, is the only explanation. The paper is timely.

DR. DEPREE.—I had a patient with a bronchial asthma which resisted all forms of treatment, and sent a swab culture to the State Board of Health, who pronounced it an influenza infection. Another case in a woman twenty years old, with enlarged tonsils and glands, in which I lanced the throat daily for five days, the Board of Health pronounced influenza. I believe many cases of colds, bronchitis, and throat troubles to be due to influenza infection.

DR. LEENHOUTS.—Colds, that indefinite and vague term, covers a multitude of ignorant diagnoses. I believe in fresh air and the outdoor life to prevent colds. They are contracted indoors, in our churches, schools and street cars. Colds are inflammations, and are contagious and infectious. They are due to depression as a result of impure air, late hours, indigestion, and caused by micro-organisms. The treatment is futile.

DR. WALKER.—Colds are produced by micro-organisms. A few years ago I had a patient, age thirty-three, seven months pregnant. She complained of pain in the head, sneezing, and facial neuralgia,—on the second day brain disturbances. Third, chills and fever and symptoms of pneumonia. Fourth, temperature 101° to 101.5°, pupils normal. Fifth to fifteenth day, drowsy, restless, ptsosis, and stiffness in neck. I thought of meningitis. Counsel advised free purgation. Eight hours later she had labor pains and aborted. Placenta removed with gloved hand. Patient died twenty-four hours later of paralysis of respiration. This was a case of meningitis due to influenza.

DR. THOMAS.—It has been stated that neurasthenia is the scrap-heap of nervous diseases, and I believe colds or "grip" to be the scrap-heap of general practice, as eczema is of our skin diseases. It is very convenient to term all obscure nervous troubles as neurasthenia, and our unknown eruptions of the skin as eczema, but to me the practice of calling everything which we cannot immediately diagnose as grip or cold seems to be far more prevalent. In our present limited knowledge of disease these three terms will continue to be our scrap-heap of medicine.

DR. PEPPLER.—I had a patient last summer who was of the tubercular type, some cough, hectic flush, and subject to colds. I sent him into the wilds of Wisconsin for three weeks. During that time he roughed it, boating and tramping through woods and brush, and often drenched to the skin, but no colds. He became robust and could stand almost any kind of exposure. On his return home he stopped in Chicago and contracted a severe cold. It is the indoor life that produces colds.

GEO. H. THOMAS, *Secretary.*

TRI-COUNTY

The Tri-County Medical Society met in Cadillac on December 1st with an attendance of about thirty members and guests.

Dr. Angus McLean, of Detroit, gave a paper on Exophthalmic Goitre, very clearly differentiating between the different forms of goitre, and outlining the treatment both medical and surgical. He also gave a clinic, operating upon two cases of goitre. They were both cystic, one monolocular, and the other multilocular. The clinic was well attended and very interesting. Dr. McLean administered fifteen grains of chloretone an hour and a half before each operation, thus rendering the anesthetic easier and the patient more tractable. Both patients are doing well.

Dr. J. D. Munson, of the Northern Michigan Asylum at Traverse City, read a paper on Manic

Depressive Insanity, clearly and interestingly outlining the symptoms, and laying particular stress upon the diagnosis and the hereditary features.

Dr. Collins H. Johnston, of Grand Rapids, read a paper on Tubercular Meningitis. He briefly described the disease, urged spinal puncture as a diagnostic measure, and also as a therapeutic one. He advised to always isolate a baby in the house with a consumptive, as these babies are frequently attacked by the disease, which is almost invariably fatal. However the mortality has been reduced markedly by the use of Flexner's Serum. This serum is difficult to get on short notice, and should not be used until the diagnosis has been confirmed bacteriologically.

At the banquet in the evening, Dr. Wilfrid Haughey, of Battle Creek, State Secretary, was the principal speaker, outlining the benefits of the State and County Medical Societies to the individual practitioner, and especially dwelling upon the advantages to the young graduate. He showed that the State and County Medical Societies take the young man where the colleges leave off, and give him an abundance of needful information which he should have obtained in college. The medical societies are about the only teachers of ethics, and of the value of a medical man's services. In the societies also does he learn, if ever, that his brother practitioners are not his mortal enemies.

Dr. Haughey also spoke about the Medical Defense work of the State Society, and the need of the State Board of Registration in Medicine, urging the members to do all in their power to secure the necessary legislation for the proper support of this Board in its legitimate and necessary expenses.

After the Doctor's talk, the members asked him questions about various phases of the Society work, and the JOURNAL, the meeting adjourning late in the evening, after electing to membership Dr. R. J. E. Oden, of Cadillac, who has recently removed from Iowa.

W. J. SMITH, *Secretary.*

TUSCOLA

The regular meeting of the Tuscola County Medical Society was held in Caro, Monday, December 12, with twenty-one members and several guests in attendance.

The terms of a new contract with the Supervisors and Poor Commissioners were discussed. Other business was transacted, and reports received.

Dr. B. D. Harison, Secretary of the Michigan State Board of Registration in Medicine, gave a very instructive address showing the work of the Board, what it has done, and what it is doing. He told about some of the schemes adopted to secure registration from the Board, and gave us the details of the recent suspension of Syracuse University (Homeopathic) Medical Department from the list of recognized Medical Schools.

Dr. Walter R. Parker being unavoidably delayed in arriving, Dr. Wilfrid Haughey, Battle Creek, State Secretary, substituted for him, and spoke about the systematic examination of the eyes and ears of school children throughout the State. He traced the origin and development of this work in the United States and in Michigan, told how these examinations are made by the teachers, and the results found. It was strongly urged that this work be taken up in all communities where it is not now done. This will be an opening leading to further and more complete examinations of children later.

A banquet was served in the evening at Hotel Montague, at which the Tuscola County Medical Society presented Mr. Montague with a beautiful cut-glass water service, in appreciation of his setting aside a room in the hotel for the Caro meetings of the Society, and other favors.

In his toast Dr. Garvin reviewed the history of Tuscola County Medical Society, and outlined the work the Society is doing in caring for the indigent of the county. The Society has a contract with the Board of Supervisors for the medical care of the poor, receiving in a lump sum the amount it has in past years cost the county to do this work. This sum pays all the expenses of the Society, and leaves a substantial amount to be divided among the members. Other toasts were responded to as follows: "Presentation," Dr. McLean; "The Danger of Doctors," A. D. Gallery; "Our Patronage," Dr. Bender; "Our Fight against Tuberculosis," Dr. Seeley; "The Evil Eye," Dr. Walter R. Parker; "Some Doctors," Dr. M. M. Wickware; "Anamnesis of Christian Science," W. S. Wixon; "Our State Society," Dr. Wilfrid Haughey; "Medical Legislation," Dr. B. D. Harison.

Dr. Parker further outlined the work of examining the eyes and ears of school children, going into more details than the speaker of the afternoon.

Dr. Haughey traced the origin, development, and ideals of the Michigan State Medical Society,

showing that our State Society in 1819 was the examining and licensing board of the State, (then Territory) of Michigan. In the fifties it was the Board of Health of the State. In this generation it is assuming other work,—an official Medical Journal which merits the support of all our members, Medical Defense for the members, etc. The Society is also taking an active part in the campaign for pure food, pure and honest drugs, sanitary prophylaxis, and various other activities.

W. C. GARVIN, *Secretary.*

WAYNE

Before one of the largest audiences in the history of the Wayne County Medical Society (225 present) Professor Winfield Scott Hall, of Northwestern University, addressed the members on the subject, "The Relation of the Medical Man to Social Hygiene."

The speaker referred to the fact that medical men have been foremost in bringing about reforms, and for years had even sacrificed life in order that causes of disease might be better understood and human suffering alleviated. He spoke of the discovery of the causes of cholera and malaria, and paid tribute to the men who were the means of bringing about this knowledge.

To the medical man, he contended, is offered another opportunity to relieve human suffering from the "black plague" of venereal disease. Lawyers, from the judicial, and physicians, from the medical standpoint can be of great help. He referred to the ravages of gonorrhea, which, until this disease was understood, from the viewpoint of the bacteriologist was considered of not much consequence. It is the consensus of opinion that this menace to the home is due to sexual wrong living. One of our chief functions should be to stand for the purity of the home.

This social hygiene can best be brought about by education of the children, and the responsibility rests upon the parents for the dissemination of this knowledge. The mothers must first be taught by the physician, who holds the key to the situation. He knows that a large percentage of people in Detroit want to know the truth about this matter. Mothers should answer the simple questions asked by children. For children grown up, instruction could be given in the school because this knowledge was not imparted to them by parents. It is up to the educational world to go into the school and bring up a generation of parents who will educate their children. He emphasized the importance of placing in charge competent teachers from the educational and sociological standpoint who can teach the subject with tact. The teaching should be begun by demonstrating the life cycle of the lower forms of life. In the high schools this instruction can be given in an ideal way. The biological laboratory can supplement the home teaching. When it comes to the point of human reproduction this matter should be discussed outside of class hours by side talks on personal hygiene to subdivisions of the class, and the last lesson on sex. Don't brood on the sex subject too much, because it leads to morbidity. A physical director of a gymnasium who has the necessary qualifications or a physician should educate the boys. Special emphasis should be made on the subjects of Nocturnal Emissions and Varicocele, since it is a well-known fact that quacks make much of their money by keeping people who are subject to these conditions worried.

The Surgical Section of the Wayne County Medical Society convened at 8.30 P. M., November 14, 1910, to listen to a paper by DR. Walter J. Vaughan on the subject of the use of cancer residue in the treatment of cancer. For Paper see December JOURNAL.

The meeting on November 21, 1910, was a general one. The paper of the evening was by Dr. L. J. Hirschman, on "Observations on Chronic Constipation." He first spoke on the extreme frequency of this malady. About every other man and even more women suffer from chronic constipation, and as a result of improper treatment from the hands of the profession are driven to the use of cathartics and every describable kind of proprietary medicine.

Constipation was defined as the voidance of fecal matter in incomplete amounts or its retention in the colon for too long a time.

The physiology of the alimentary canal was taken up, and he showed how constipation is always the result of an impairment in the function of the large bowel; the small bowel rarely if ever is at fault. The time normally consumed for the passage of food from the pylorus to the cœcum is four hours; the passage from the cœcum to the anus takes eighteen hours. Acid contents leaving the stomach stimulates pristalsis. This plus the gases which are formed and which are again absorbed, the hard indigestible food particles and the churning effect respiration exerts, constitute the normal stimuli for proper defecation.

The proper diagnosis is all important.

Constipation must be differentiated from obstipation. The treatment of the former will be of no avail if some form of obstruction is at the bottom of the trouble. The different causes of obstruction were enumerated.

If, after a careful examination, the condition by exclusion proves to be constipation, or atony of the large bowel, the treatment must be dietetic, constitutional in the way of exercise, etc., and local, i. e., stimulation of the rectum and sigmoid. The latter has for its aim to place something in contact with the mucous membrane of the rectum and sigmoid which will act as a normal fecal mass. This will cause the bowel to contract; repetition of any procedure of this kind for a sufficient number of times will gradually restore the normal tone, and will, if done at regular intervals, restore a natural "habit" for the bowel to contract which, through neglect, has been lost.

The instrument he uses for this purpose and which has given him very satisfactory results (the Hirschman rectal and sigmoidal dilator), was fully described.

He emphasized the fact that cathartics have no place in the treatment of chronic constipation except perhaps at the very beginning of treatment, and then for one dose only.

The Medical Section of the Wayne County Medical Society met November 28. In the absence of the Chairman, G. E. McKean, and Secretary F. G. Buesser, Dr. R. M. Woodward took the chair and Dr. R. C. Andries acted as Secretary.

Dr. P. J. Livingstone read the paper of the evening entitled, "Ocular Disorders as Symptoms of Systemic Disease."

The essayist emphasized the importance of examination of the eye in the diagnosis of systemic disease, claiming that we have not fulfilled our obligation to patients without such a procedure.

Attention was directed to the vascular system and the functions of the internal secretions.

In the former, an early diagnosis can be made by demonstration of a perivasculitis in the fundus-oculi or a tortuosity or change in the calibre of its vessels, long before the physical or urinary examination shows anything in a pathological way. So also may the ophthalmoscope be utilized to demonstrate an old choroidal atrophy or organized subretinal exudate, the only demonstrable remnant of the secondary stage of syphilis.

The most important present evolution in internal medicine, according to the speaker's idea, is that comprehended in the research into the possible physiology of the internal secretions and their relation to so-called endogenous auto-intoxications coming from improper assimilation of food elements or inadequate elimination of their end products, and their relation to headaches and eye strain.

The individual with chronic headache is often classified as neurotic, sufficient care not being taken to endeavor to find the cause. Oftentimes it may be due to inactive bowel movements or imperfect gastric or intestinal function as indicated by indican reaction. This class often reveal very slight error of refraction.

Other cases are perhaps due to some toxin or toxins resulting from a departure from the physiological secretion of the ovary.

The Medical Section of the Wayne County Medical Society met on Monday evening, December 5th, and listened to an interesting paper, "Chorea Minor," by Dr. I. L. Polozker.

The author referred to the fact that this disease is an acute self-limited infectious disease in children and young people, related to rheumatism and characterized by spasmodic nervous symptoms. It bears no relation to St. Vitus Dance, which is an hysterical affection.

Chorea affects children between the ages of five and fifteen years. The largest number of cases occur between seven and thirteen years, perhaps because of the fact that this is the period during which a child is so prone to attacks of the other acute infectious disease; it too is the time when the child is placed under mental and nervous strain in school. Many authors claim that the disease is more frequently found in girls than in boys, but the observations of the essayist would indicate that the reverse is true. Most cases are encountered in the spring. Neurotic children are the most susceptible. In almost every case there could be elicited a history of rheumatism. Frequent attacks of tonsilitis, endocarditis and a neuropathic history was obtainable in such a large percentage of cases that a definite relationship has been established between our cases of chorea, rheumatism, endocarditis and chronic infectious diseases. Prof. Huebner was quoted as follows: "Chorea is a rheumatic equivalent, as the localization of the rheumatic infection is in the nervous system." The essayist in referring to the relation of chorea to rheumatism and diseases of the heart said that cardiac inflammation became manifest early. This at first may be a functional systolic apex

murmur, but later is often followed by organic endocardial disease.

While little is known of the pathology, post-mortems show a toxic infectious lesion in the cerebellum, not sufficient, however, to produce anatomical findings. All changes are diffuse and involve the central nervous system.

The diagnosis of chorea is usually made without difficulty; mild cases of tic do however sometimes cause confusion.

While arsenic is the drug most commonly used, it is not of as much value in this condition as was once supposed. In small doses it may do good in certain cases. More useful are the salicylates and its groups. Even when cases show no apparent rheumatic symptoms, these may be of benefit. Salicylates, however, will not cure all cases. Tonic treatment has an important place, and rest is one of the essential features. Monobromated camphor has been of benefit in some cases.

In severe cases sedatives are indicated. Warm baths, packs, tepid sponging are useful adjuncts. Removal of reflex disturbances when deemed necessary.

R. C. ANDRIES, *Correspondent.*

NEWS

The Homœopathic Department of the University of Michigan had registered, on the third day of the present semester, in all, eighty-seven students. Of these thirty-three were Freshmen, thirteen Sophomores, twenty-one Juniors, seventeen Seniors, and three Post-graduates. The entrance requirements have been increased to one year of undergraduate college work, and these requirements go into effect in the fall of 1912. It was therefore expected that any increase in the Freshmen enrolment this year would be accounted for by the desire of prospective students to enter before the requirements should exclude them.

The Old Medical Building at the University of Michigan, condemned some years ago, has received a new lease of life and may yet stand for decades to come. The Board of Regents at its last meeting declared that the alumni of the Medical Department should have until January 1, 1912, to demonstrate the practicability of their plans for redeeming the historic old structure, and two hundred dollars has been appropriated by the Regents for plans.

The east end of the building is the original Medical Building built in 1850, and this part the alumni are particularly anxious to preserve for historic and sentimental reasons. The west end is the extension made about 1870.

The plans for the reconstruction and strengthening of the building will entail an expenditure of at least fifty or sixty thousand dollars, which sum must be raised by subscription among alumni before the first day of 1912. It is thought that by the use of a steel frame the west end, declared unsafe, may be made stable.

Last June, at a meeting of the medical alumni graduated since 1871, held during the American Medical Association conference at St. Louis, a committee was appointed to make suitable plans for the preservation and use of the building. It is planned to make the older east end of the building into a state museum of hygiene, after the general model of the museum at Budapest. There the visitor might find exhibits, mostly in the form of object lessons, showing how to prevent and cure tuberculosis, what precautions are necessary to keep a water supply pure, the part played by the house fly and the mosquito in the spread of disease, and like practical matters.

The west end of the building it is proposed to make into a medical library, for the University, of course, but for physicians of the State as well. It has been suggested that, in view of the fact that physicians throughout the State are constantly appealing to members of the medical faculty here for references, it would be well to establish a loan library housed in the reconstructed west end of the Old Medical Building. Although the Medical Department has made an extensive and valuable collection of books, it is the only department on the campus which has no separate library room, the books at present all being housed in the general Library Building.

One of the features of the recent Clinical Meeting of the Surgeons of North America was announced on the program for November 15 as "Anal Fissure (operated upon under local anesthesia, quinine and urea, by Dr. L. J Hirschman of Detroit, by invitation)."

The Physician's Visiting List for 1911. Philadelphia: P. Blakiston's Son & Co. Price $1.25.

This little book, with its flexible leather, tucked binding, its pocket and useful data, together with a happy arrangement for the carrying of one's day-book memoranda, is always eagerly received. The number for this, the sixtieth year, is fully as good as any of its predecessors.

BOOK NOTICES

Modern Treatment: the Management of Disease with Medicinal and Non-medicinal Remedies. By eminent American and English Authorities. Edited by Hobart Amory Hare, M. D., professor of Therapeutics and Materia Medica, Jefferson Medical College, Philadelphia; physician to the Jefferson Hospital; author of "A Text-book of Practical Therapeutics," "A Text-book of the Practice of Medicine," etc. In two very handsome octavo volumes, comprising 1800 pages, with numerous engravings and full-page plates. Price per volume in cloth, $6 00, net; half morocco, $7.50, net. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

The development in therapeutics in the last two decades has approached nearer to specific treatment than before the era of Serum Therapy was thought possible. The above work, the first volume of which is now out, is not only timely, but greatly needed. During the lust for leadership this subject has been allowed to lie, while on the more attractive ones of surgery, gynecology, children's diseases, obstetrics, etc., a plethora of writings have gone forth by authors and would-be authors. Now, in the fulness of time, when the new remedies put forth have been thoroughly tried and weighed in the balance of experiment, those patient men have brought forth the ripened fruit of their investigations in two handsome volumes destined to be the acknowledged authority for some years to come. Vol. I is divided into three parts: Part I, General Consideration. Under this heading Modern Pharmacology, and its bearing on practical therapeutics, is considered. Drugs are classified as to their action, strength and relative potency. Prescription writing and the rules governing the writer and dispenser are plainly and impartially discussed. The effect of drugs lies, of course, either in the remedy, its administration, or in the individual who takes it. The author shows how these effects may occur in writing the prescription, dispensing it, or in the strength of drugs used, and particular attention is called to drugs that change in strength by time and keeping, or that assay differently because of locality and kind of soil in which the plant grows. The ill effects of each drug are given at length.

Part II, Treatment of Disease by Non-Medicinal Measures. This includes climate, exercise, rest, hydrotherapy, and is contributed to by sixteen authors under thirteen headings.

Part III covers the treatment of infectious diseases, as typhoid fever, the exanthemata, meningitis, pneumonia, tuberculosis, diphtheria, acute rheumatism, cholera, plague, influenza, yellow fever, by as many different authors.

This is a most valuable work, the arrangement is simple and easy for quick reference, the text is full and complete, but not prolix. All standard drugs are described, and the newer additions receive careful and complete consideration. Both the good and evil results of drug and non-drug treatment are clearly indicated. No more valuable medical work has appeared in a long time and particularly on this subject.

Pathogenic Micro-organisms, Including Bacteria and Protozoa. A Practical Manual for Students, Physicians and Health Officers. By William H Park, M. D., Professor of Bacteriology and Hygiene in the University and Bellevue Hospital Medical College, and Director of the Research Laboratory, Department of Health, New York City; and Anna W. Williams, M. D., Assistant Director of the Research Laboratory. New (fourth) edition, thoroughly revised. Octavo, 670 pages, with 196 illustrations and 8 full-page plates. Cloth, $3.75, net. Lea & Febiger, publishers, Philadelphia and New York, 1910.

Among the host of works on bacteriology, Professor Park's book won a foremost place immediately on its original appearance, and in the intervening eleven years four large editions have been required. The scope of the work has been several times broadened, until now it includes protozoa, and also the micro-organisms important in agriculture.

The whole work is strictly up to date, as is evidenced by the exhaustive treatment of the typhoid bacillus, for instance. Typhoid carriers are discussed at considerable length. Wright's vaccination for typhoid is favorably mentioned, showing that it about halves the morbidity and mortality. The importance of public sanitation in relation to typhoid is insisted upon.

The germs of tetanus, diphtheria, tuberculosis, influenza, gonorrhoea, etc., are studied with the same minutiae and in a way clearly understood by the general practitioner.

In the late years milk has received an enormous amount of attention as the carrier of disease. The bacteriology of milk receives a chapter.

The protozoa are considered thoroughly, both as a class of germs and as individuals causing individual diseases.

A Manual of Nursing. By Margaret Franes Donahoe. Illustrated. New York and London: D. Appleton and Company, 1910. $2.00 net.

This book of 489 pages very clearly and concisely outlines the duties of the nurse to herself, to her patient, and to others. It discusses the personal care of the patient, his food and the administration of medicines,—doses, modes of administration, etc., but the nurse is distinctly cautioned never under any circumstances to prescribe, "for such usurpation of the doctor's duties is not only unprofessional, but may be attended by gravest danger."

Under the head of anesthetics is the statement, "Ether does not require to be mixed with air as chloroform, but it is better when administering it that the patient shall be allowed some air." The first part of this statement seems to us a little unfortunate, as does the discussion of administering anesthetics to children, and forcing them under quickly. Our view is that a nurse should never anesthetize a child. But these are matters in which we all differ, and the book itself appeals to us as a good one in its field.

The Practice of Surgery. By James G. Mumford, M. D., Instructor in Surgery in the Harvard Medical School. Octavo of 1015 pages, with 682 illustrations. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, $7.00 net; half morocco, $8.50 net.

This book is exactly what the title says, "A Practice of Surgery." The aim being to tell the "how" rather than the "why," which latter is left to other volumes for explanation. The busy practitioner who wishes to review his technique will find in this volume, condensed and separated from long pages of principles and "whys," what he seeks.

The author apparently believes in devoting much attention to the more common conditions with which we have to deal, and the manner in which he has given attention to such conditions as appendicitis, illeus, typhoid perforation, fecal fistula, abscess, fractures, dislocations, etc., makes the book unique.

Much space is devoted to abdominal and inguinal hernia, and prominence is given to the operation as done by Hallstead and Schudder, and the Mayo Umbilical. The treatment of acute suppurative peritonitis as endorsed by the profession of to-day receives marked attention and pleasing elucidation. In short, the work will commend itself to the busy practitioner, but the student of Medicine will fail to find in it the "why," which he must seek elsewhere.

It is a most valuable book, and its arrangement, by excluding most of the principles and theories, makes possible the combining of a vast multitude of conditions between the covers of one volume.

Diagnosis and Treatment of Diseases of Women. By Garry Sturgeon Grossen, M. D. Second edition, revised and enlarged, with seven hundred and forty-four engravings. St Louis: C. V. Mosby Company, 1910. Price $6.00, net.

In the second edition of "Diagnosis and Treatment of Diseases of Women," Grossen has produced a volume that will be a great aid in a class of diseases the successful treatment of which depends so much upon a correct diagnosis. To this end he has devoted fully one-half or more of the book, and illustrated all physical examinations by numerous clear cut and carefully prepared photographs of the actual maneuver, thus placing before the eye the object sought in the examination.

In the treatment he is equally painstaking and concise. He sets forth the principle in unmistakable language, without the bewildering accompaniment of opinions of too many other authors.

It is unfortunate that a medical author should even inadvertently recommend by name a proprietary preparation not recognized by the A. M. A. Council on Pharmacy and Chemistry. However, the book is valuable. The treatment of gonorrhea in the female is especially fine, and altogether the volume will be found desirable.

The Practical Medicine Series. Vol. VIII. Materia Medica and Therapeutics Preventive Medicine Climatology, edited by George F. Butler, Ph. G., M. D., Henry B. Favill, A. B., M. D., and Norman Bridge, A. M., M. D. Series 1910. Chicago. The Year Book Publishers, 40 Dearborn Street. $1.50 net.

This book contains in an easily accessible form the new things in the domain of therapeutics, preventive medicine, and climatology. For instance, the finding of Engstadt (Jour. A. M. A., Mar. 19, 1910) that ether given as for anesthesia is a good antidote for cocaine and stovaine poisoning,—a good thing to know in these days when cocaine and stovaine are used so much. The theoretical reasons are given, and also cautions as to methods used. Under climatology we are glad to notice that the author advises against sending hopeless patients to a distance to be treated. The book is well written, and worth the money.

A Text-book of Bacteriology. A practical treatise for students and practitioners of medicine. By Philip Hanson Hiss, Jr., M. D., and Hans Zinsser, M. D., Illustrated. New York and London: D. Appleton and Company, 1910. Price $3.75.

This work is intended for the use of the student and also of the practitioner, and is written with that use in view. Section I is devoted to teachings of bacterial study, and to biology and physiology of bacteria. Section II has about 128 pages devoted to infection and immunity. Section III the pathogenic micro-organisms, each organism being studied by itself as well as in its relation to others. Section IV is devoted to diseases of unknown origin, and Section V to bacteria in air, soil, water, milk, and the industries.

The book is profusely illustrated, of handy size, clearly written, and receives our unqualified endorsement.

SURGERY

Conducted by

R. E. BALCH, M. D., Kalamazoo, Mich.

Chronic Intestinal Stasis.—William Arbuthnot Lane, of London, England, calls the attention of the American surgeons to the advisability of short-circuiting the large bowel in cases of chronic intestinal stasis. This stasis he attributes to mechanical changes in the digestive tract. In brief, he describes these changes as follows:

I. An abnormal fixation of the pyloris by the development of a new band which attaches it to the under surface of the liver.

II. This fixation of the pyloris may result in the production of a kink sufficient to interfere with the normal functioning of the stomach and duodenum. This may cause engorgement of the mucosa followed by ulcers of the duodenum.

III. There develops on the under surface of the mesentery of the last few inches of the ileum a false ligament. As this contracts a kink may be produced, causing obstruction at this point.

IV. Bands of adhesions develop between the outer aspect of the cecum and the abdominal wall. The appendix is frequently caught in this band. He attributes the development of appendicitis to this band, in a majority of cases.

V. Both hepatic and splenic flexures may be drawn up by false bands of adhesions.

VI. Nature in her attempt to keep the sigmoid loop out of the true pelvis, forms bands on the outer surface of the meso-sigmoid. If these contract, the mobile loop is changed into a fixed tube.

Symptoms: First, loss of fat. Second, circulatory changes, due to changes in the heart muscle. Third, the respiratory function is inhibited. Fourth, staining of the skin. Perspiration may become very offensive. Fifth, the patient suffers from much pain and weakness in the muscles, especially of the legs. Sixth, frequent and severe headache. Seventh, lessened resistance to infection. Eighth, changes in the breast, which frequently leads to cancer.

The author extends little hopes from medical treatment of these cases. For the cure of these cases he recommends short-circuiting the large bowel by connecting the ileum with the rectum. If there is much pain, he advises connecting the ileum with the sigmoid and completely resecting the intervening large bowel. The paper was freely discussed by the Chicago surgeons present.—*Surgery, Gynecology and Obstetrics*, November, 1910.

Treatment of Tuberculous Glands of the Neck.—In the December number of *Annals of Surgery*, Edward Starr Judd reviews 649 operated cases. He says there are approximately eight hundred glands within the entire human body, and three hundred of these lie in the tissues of the neck.

They are grouped as follows: Sub-occipital group, mastoid group, parotid gland, sub-maxillary gland, submental glands, and retro-pharyngeal glands, forming what he describes as the glandular collar. This collar drains the entire scalp, skin and mucous membrane of the head and face, and each group sends its drainage to the deep cervical chain. There are no lymphatic vessels passing upward, or communicating at any point within the skull. The deep cervical chains unite on either side of the neck into one or two large lymphatic vessels called the jugular trunks. These trunks empty respectively into the internal jugular or subclavian vein on the right side, and into the thoracic chile duct on the left. He calls attention to the importance of this point, inasmuch as there is no connection between the cervical and mediastinal lymph glands. Consequently inflammation and neoplasms of the cervical lymphatics are local until they pass into the general circulation. From his studies he finds that in 80 per cent the first enlargement was beneath the upper end of the sterno-mastoid muscle. In 18 per cent the first enlargement was in the submaxillary, submental or parotid regions. In the few cases in which the supra-clavicular group was involved there had been a previous involvement of the axillary gland.

In speaking of indications for operations, he emphasizes the fact that pulmonary invasion is not necessarily a contraindication for operation. The technique of his operation differs little from that of the late Christian Fenger. He does not cut the sterno-mastoid muscle, and uses the omo-hyoid muscle as the lower border of his incision. He provides for drainage by a stab wound at the lower border of the neck.

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ORIGINAL ARTICLES

THE SURGICAL TREATMENT OF GOITER*

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Detroit, Mich.

In the past few years the thyroid gland has occupied a prominent place in the medical literature. Studies have been undertaken upon this gland, and the pathology which its perverted secretion produces upon the body. Again, as in other organs closely related by function or embryology, this gland has been studied with relation to other glands, of whose function we are as yet uncertain. That there are definite relations between the thyroid, pituitary gland, thymus and adrenals is generally admitted.

Taking our clinical and morphological data together in studies of the ductless glands, we will admit that here we also have a disease of the sympathetic nervous system. It would seem that the pituitary body also has a definite relationship with the sympathetic nervous system, composed as it is of two entirely different tissues, that apparently have entirely different functions. It is only necessary to observe certain clinical symptoms which are brought about as the result of minute cellular pathology, to convince us that a study of the ductless glands, of which the thyroid is one of the most active, is a most complex one. In certain conditions of hyperplasia of the anterior lobe of the pituitary gland we have great increase of connective tissue and bone, with pigmentation of the skin and lessening of the functions of the nervous system, etc.

In hyperplasia of the thyroid we find tachycardia, emaciation with nervous symptoms. In morphological changes in the adrenals we find a certain character of clinical symptoms, as pigmentation, chronic inflammation of the sympathetic nervous system, and marked prostration. What is the exciting cause of this cellular unstability?

The thyroid is very vascular, and receives its blood supply from the superior and inferior thyroid arteries, which form free anastomosis throughout the organ. The nerves are derived from the middle and inferior ganglia of the sympathetic, and accompany the blood vessels.

*Read at the Forty-fifth Annual Meeting of the Michigan State Medical Society, Bay City, September 28, 29, 1910.

STRUCTURE

The normal thyroid consists of closed vesicles of various shapes, connected by areolar tissue. The vesicles contain normally a glairy fluid, called colloid, and are lined with epithelial cells. According to Bloodgood the thyroid in young embryonic life is composed of acini lined by epithelial cells of characteristic type, and contains no colloid.

PHYSIOLOGY

Our knowledge of the importance of the thyroid gland has been derived in great measure from observation upon man and animals from whom the thyroid has been removed. Certain phenomena follow, which proves beyond a doubt that metabolism is disturbed. In cases where the glandular secretion is augmented, we find opposite phenomena.

There is a close relationship between the sexual functions in the female and the thyroid, for the thyroid enlarges during menstruation and pregnancy; in pregnancy without thyroid enlargement we must be on the outlook for eclampsia. A certain amount of thyroid is necessary to produce proper metabolism, and aberration from the normal organic constituent iodothyrin will produce marked functional and structural changes. We can readily believe that the secretory function of the thyroid is essential, and that the normal secretion is antitoxic.

The thyroid gland may become hypertrophied by multiplication of its areolar tissue, increase of colloid, be the seat of a neoplasm, or have marked essential cellular changes. Following such changes in the gland, whether they are incited by chemical or metabolic conditions, we have marked clinical manifestations.

DIAGNOSIS

In the diagnosis of the pathological changes which occur in the thyroid gland we will consider simple goiter, or enlargement of one or more lobes of the gland, without disorders of secretion, and exophthalmic goiter where, in addition to cellular changes, we have constitutional changes and symptoms.

Ordinarily the diagnosis of simple goiter presents little difficulty; the enlargement is, as a rule, confined to one lateral lobe, usually the right, but both lateral lobes may be involved, or the median and one lateral, or both lateral and median.

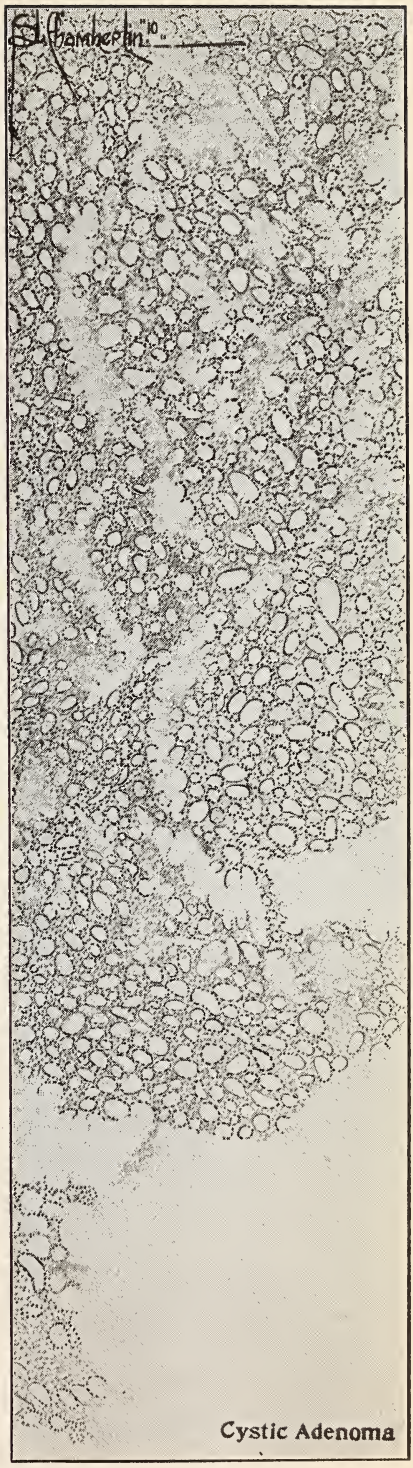
In differential diagnosis we consider lymph nodules due to leukemia or pseudo-leukemia. Here we usually find glands along the outer border of the sterno-cleido muscle, and nodules appear higher on the neck.

Branchial and hypoglossal cysts present a more uniform surface, distinct fluctuation is present, and usually a congenital history. Carcinoma or sarcoma are rare, but must be considered in rapidly growing simple goiters. In malignant growths we find early infiltration of the capsule, which perverts the movability as in benign growths, and the skin appears tense. In the past two years we had three malignant cases, two sarcomata and one carcinoma.

DIAGNOSIS OF EXOPHTHALMIC GOITER

Early observers made the diagnosis from the exophthalmos present, with the enlarged thyroid; later was added the symptom of tachycardia. Many cases of Graves's Disease do not present any exophthalmos until later in the course of the disease, and long after the nervous symptoms and tachycardia have been prominent. One characteristic has been observed in this disease, that the early symptoms may vary from day to day and week to week, depending upon the absorbability of the altered secretion. The primary hyperplasia of the gland is in all probability nature's effort to combat this aberration from the normal. As yet we do not know if the exciting cause may be the circulatory apparatus or the





PATHOLOGICAL THYROIDS

sympathetic nervous system. In long-standing goiters, where we have beginning symptoms of Graves's Disease, we find tachycardia, nervous disorders, and tremors, followed with marked or slight increase in the size of the gland. Very severe symptoms are often caused by very small glands, depending upon the epithelial hyperplasia. In fact, many cases go for a time unrecognized on account of there being no apparent glandular enlargement. In many such cases all the typical symptoms may not appear until late in the disease, and if one is to wait for all to appear, we have terminal degeneration present, which seriously handicaps us in successful treatment. Other symptoms present in typical cases early are often muscular weakness, vertigo, Græfe's Sign, Stellwag's Sign, dyspnea, gastric and intestinal disturbances, sweating, anemia, emaciation, blood changes.

Every case of persistent tachycardia not accounted for by organic changes should be closely investigated. Nervous weakness appearing often at the same time as the tachycardia, may be sign of a disturbance of the sympathetic nervous system; patients' dispositions may entirely change.

TREMOR

This is a symptom nearly always present, often very early best obtained by having patient extend arm at right angle to body and separating the fingers. The tremor is very fine, eight to ten oscillations taking place in a second.

Muscular weakness shows itself in a patient when he cannot perform his ordinary vocation, and becomes easily fatigued, this often manifested before a physician is consulted, the patient complaining of dropping things. In cases presenting themselves for treatment for nervous disorders, it will always be well to eliminate hyperthyroidism before treating for hysteria.

EYE SYMPTOMS

Græfe's Sign.—In directing the eye downward the lower margin of the upper lid does not follow the line of vision as is normal: either does not follow at all or follows in an irregular manner.

STELLWAG'S SIGN

In marked exophthalmos there is retraction of the upper lid, and winking is less frequent; gastric and intestinal disturbances, probably caused by the poison acting as an irritant; and we have noticed that when these symptoms are at their worst, the thyroid appears engorged. Such cases invariably improve if elimination is thorough.

TREATMENT—SIMPLE GOITERS

Many cases of simple goiter may be cured by simple treatment; this may be hygienic, dietetic and medical. Surgery in such cases is safe and certain, and often the best treatment, and unless contraindications are present, the mortality will be nil. The goiters if troublesome from pressure on the trachea, may cause paralysis of the vocal cords on account of pressure upon the recurrent laryngeal nerve; may become malignant, or by cellular proliferation and structural changes, initiate that disorder called Graves's Disease.

TREATMENT OF EXOPHTHALMIC GOITER—NON-SURGICAL TREATMENT

One thing must be borne in mind in the non-surgical treatment: that if the treatment does not result in a cure or improvement in a comparatively short time, it should be discontinued, and if the case is a surgical one, resort should be had to surgical treatment before such a time has passed when the patient's condition is such as to admit of operative procedures. The most important treatment to insist upon is rest in bed, with mental rest as far as possible, easily digested, mostly vegetable diet, and symptomatic medical treatment, filtered water, etc.

Marine and Lenhart report in the examination of the thyroid of fish they found a fairly uniform thyroid hyperplasia in the fish of Lake Erie.

Fish from Yellowstone Park, from Utah to California, sea trout and bass from the Atlantic Ocean, showed no thyroid hyperplasia.

It is well known that goiter is endemic in regions depending upon Lake Erie for their water supply, both in man and the land animals. This finding is perhaps the most direct evidence that goiter may be associated with water.

Forscheimer has recommended the use of hydrobromate of quinine in five-grain doses three or four times a day. We have used this in many cases, but only as an adjunct in preparatory treatment for operation. Several cases which we have had under observation have made some improvement with this line of treatment. In the line of serum treatment Mœbus has produced a serum made from thyroidectomized goats known as antithyroidin; some good results have been reported upon its use. We have used it on several occasions, but with apparently no results; all the cases in which we have used it were very grave. Rogers and Beebe have a serum made from goiters which have been removed.

According to the published reports, this has been productive of many cures. We are using it at present, but have not tried it upon a sufficient number of cases. Dr. Beebe claims for it a percentage of cures, and our experience with it would teach us that careful serum therapy has a very wide field.

IODINE

This should never be used in exophthalmic cases, as it only aggravates the symptoms, especially the tachycardia.

OPERATIVE TREATMENT—THYROIDECTOMY

In all goiter operations we must suit our operation to our patient, and not perform enucleation when ligation is indicated, and we must choose our anesthetic for the same reason. Many surgeons perform all operations upon the thyroid with local anesthesia. We use ether in nearly all cases, while formerly we performed many under local anesthetic, always preceding it with a small dose of morphine and atrophine, and in some cases with a small dose of chloretone. In grave cases of exophthalmic goiter, it seems to us best to avoid all unnecessary excitement, and we have best avoided this by a general anesthetic.

Many cases of polar ligation of the arteries may be easily performed under local anesthetic. The patient is put on the table in the best position for breathing, about 45°, and all adjustments should be made before beginning the anesthetic. Anesthesia is only used for the first part of the operation, little or no ether is given at the last part, and the patient wakens on the table or a few minutes after.

TYPES, CLINICAL AND PATHOLOGICAL

1. Cases of moderate enlargement of the thyroid with mild symptoms of hyperthyroidism, usually nervous and circulatory. These glands show pathologically hyperemia and cellular hyperplasia of at least a portion of the gland.

2. Cases of hyperthyroidism which are associated with marked structural changes in the gland. These are the least satisfactory cases to treat, especially so when marked increase in gland is noticed simultaneously with hyperthyroidism. Pathologically these glands show greater parenchyma increase, and in some instances evidence of increased absorbable secretion with desquamation of epithelial cells.

3. Cases of long-standing goiter at first simple, upon which the symptoms of hyperthyroidism supervene. In such cases we often find an increase of colloid, which apparently means decreased absorption, also frequently areas of degeneration

DANGERS OF OPERATION UPON THE THYROID

In many cases the anatomy is greatly distorted, and all vessels enormously distended, so that in such cases thyroidectomy is a formidable operation.

The principal dangers are, injury to the recurrent laryngeal nerve, the parathyroids, hemorrhage, collapse of trachea and post-operative hyperthyroidism.

In all cases of huskiness of the voice the vocal cords should be examined prior to operation. The same precautions which serve to protect the parathyroids serve to protect the recurrent laryngeal. The field of operation must not be obscured, nor artery clamps allowed to clamp promiscuously.

The parathyroids are small glandular bodies which lie upon the posterior surface of the thyroid, and usually separated from that body by connective tissue. Their blood supply is from the parathyroid arteries, which are branches of the inferior thyroid. These glands have a definite function, and if all are removed or destroyed at operation, tetany soon develops and is always fatal. These are best avoided by keeping inside of the capsule of the thyroid.

HEMORRHAGE

All bleeding points must be tied, and large veins are best clamped before cutting.

HYPERTHYROIDISM

This is very dangerous and fatal sequela to an operation upon the thyroid, and follows of course the cases following marked hyperthyroidism before operation. In our severe cases our mortality has been two, both of which died from hyperthyroidism within thirty-six hours after operation. Both cases were delirious before operation, and resisted all medical treatment.

In the past six months we have operated upon twenty-six cases of goiter, twenty-one being operated upon by Dr. Augus McLean.

In this series there were six cases with all aggravated symptoms of Graves's Disease, cases in which the pulse was over 140, and could not be reduced below that by medical treatment. Marked emaciation and myocardial changes were also present. Two of these cases were delirious at times. In this group of six the operation which was performed was polar ligation of the affected lobes, the upper polar being ligated in four cases, and upper and lower in two.

All of these cases have made a marked improvement, two of whom have gained over fifteen pounds in less than six months. The gain in weight, along with the decrease in nervous symptoms and improved appetite, are the first signs of improvement which we have noticed, and we believe that the cases which gain in weight within a few weeks or months after the operation are permanently cured in so far as the hyperthyroidism is concerned.

In the other group of eight cases of exophthalmic goiter there were three in which the pulse was over 120, with rapidly increasing symptoms of Graves's Disease. The operation performed in four of these cases was polar ligation, and in four enucleations and excision. These cases have all been improved, and with one exception have no signs of exacerbations. In one case the upper pole was ligated, and while the symptoms have been modified, we believe that as soon as it is safe enucleation should be performed.

In the remaining twelve cases of cysts and cysto-adenomata the operation was enucleation or excision of one or both affected lobes.

We always plan to leave at least two-thirds of one lobe, if possible, to avoid myxedema. A later report of these cases and of cases operated upon prior to 1910, with technique, will soon be published.

PROGNOSIS

The prognosis is very good in all cases in which the patient is not already suffering from the results of degeneration. In our work on the thyroid, our entire mortality has been two cases, both of which died from hyperthyroidism. We have had no deaths in the last two years.

Our experience teaches us that the surgery of the thyroid is as exact as the pathology with which we have to deal.

Surgery may remove degenerated glands, but will not restore a long-continued intoxication of the myocardium to the normal.

Recovery follows in the ratio with which we remove the source of the disease.

57 West Fort Street.

DISCUSSION

Dr. Joseph Sill, Harper Hospital, Detroit.—I would like to say one word in regard to the blood changes in exophthalmic goiter, because sometimes they are of considerable importance in diagnosis. The blood changes occur very early, when the diagnosis is difficult. We get in the first place an anemia due to the toxemia from which the patient is suffering; this is commonly masked by a concentration of the blood due to faulty heart action. We get a reduction in leucocytes, the loss falling chiefly on the polymorphonuclear forms, giving an apparent lymphocytosis and eosinophilia; the blood picture then shows a normal or high red cell count, a moderate loss in hæmoglobin, and reduction in leucocytes, with a relative lymphocytosis and eosinophilia. I have made blood examinations in a number of cases in which this blood picture was really the determining sign in the diagnosis of exophthalmic goiter.

Dr. C. D. Brooks (closing).—I did not have quite time enough for what I wanted to say about the dangers of the operations on the thyroid. They are principally of the parathyroid and recurrent laryngeal nerves and hemorrhage. By keeping inside of the capsule we avoid the parathyroids and recurrent laryngeal. We have seen cases which we know from our experience would not have survived any other operation, which will get well if a polar ligation is performed. Many cases which would not otherwise have lived, will soon be able to do their own housework.

A CONSIDERATION OF SURGICAL METHODS OF TREATING HYPERTHYROIDISM

Charles H. Mayo, Rochester, Minn., says that the glands of elimination are provided with an intermittent discharge, and among these is the thyroid. It is difficult to estimate the amount of hypersecretion; the entire absence of secretion might occur and be compensated by other glands of associated function. One can hardly tell the amount of oversecretion that can be neutralized by other glands. The author's observations cover over 2,000 cases operated on, and it is evident that the amount of disease in the gland varies much as to the appearance of symptoms. Goiter may be a reversion to a former function of the gland; hyperthyroidism is a toxemia due to absorption of thyroid secretion. The stimulus may be the same as was present in primitive man; this was then a normal stimulus. It may still be present in food or water, be formed through some process in the intestine, result from metabolism, or exist in the air. The types of goiter are but stages in a general process. Goiter may be classified as to pathology, into cystic, chronic parenchymatous hypertrophic, papillary cystic goiter, hypertrophic fetal goiter, and fetal adenoma of the thyroid. The operative mortality in surgical treatment of simple goiter is very low; in hyperthyroidism it is quite a different matter. This condition often causes death or invalidism. If fatal, death occurs within a few weeks of the beginning of the disease; seldom does it progress slowly to death. The ligation of vessels, nerves, and lymphatics seeks to cause a reversion to simple goiter. Early cases may be treated thus; serious cases with degeneration of heart, liver and kidneys, are also benefited by this operation, there being a gain in weight immediately. Over 1,100 patients operated on at St. Mary's Hospital show mortality after ligation of 37.10 per cent.; after extirpation of 39.10 per cent.; about 70 per cent. of the patients consider themselves cured.—*Medical Record*, December 31, 1910.

ACUTE POLIOMYELITIS*

GUY L. CONNOR, M. D.
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Individual cases of acute poliomyelitis were described by Underwood (1784), Shaw (1822), and Badham (1835), but the knowledge of this disease remained very limited, and its separation from the other forms of paralysis in childhood was not established. To Jacob Von Heine belongs the honor of being the actual founder of the doctrine of spinal paralysis in children. In 1840 he wrote a monograph on the disease and described especially well the atrophy and deformities. But the pathological anatomy of this affection remained obscure, one side claiming it was a spinal and the other a peripheral paralysis. In 1860, in his second edition, Von Heine came out in a flatfooted manner in favor of the spinal seat of the disease. Duchenne also favored this position. These views were based on clinical observations, and not from autopsy findings. Cornil (1863) was the first to recognize distinct alterations in spinal cord in this disease; but Prevost and Vulpian (1865) were the first to make the positive observation that the anatomical lesion was essentially situated in the gray horns.

It was not until about the time when the anatomical basis of the disease had been established, that it was proved to be not exclusively an affection of childhood, but one which might occur during adult life. This fact was first pointed out by Meyer and confirmed by Duchenne.

The history of the epidemic form in contrast to the sporadic cases has been well worked out by Starr, Collins and others Colmer reported in 1843 an epidemic around West Feliciana, Louisiana, occurring in 1841. This is the first epidemic of acute poliomyelitis reported. In 1908 Holt and Bartlett collected the literature of thirty-five epidemics, Starr reported forty-four; Collins adds twenty more to the list in 1910.

Following the 1907 New York epidemic, a commission appointed to study the same have gotten out a most comprehensive work on acute poliomyelitis epidemica. Much of Flexner's experimental work on monkeys is embodied in this report.

Acute poliomyelitis is a nervous disease in which inheritance plays no part. Girls and boys are equally susceptible. It occurs most commonly between the ages of one and four years. Adults are not immune to it. June, July, August and September are the months in which most cases have their onset. The disease is communicable at least in its epidemic form. The degree of infectivity does not necessarily correspond to degree of virulence. The virulence of the infection can be measured not only by the mortality of the disease, but also in many instances by the proportion of adults affected. Since adults have more resistance to infection than young children, a large proportion of adult cases usually indicates a more virulent infection.

The etiology of acute poliomyelitis has not been definitely settled. The experimental work by Flexner has thrown much light on this subject. During the preva-

*Read before the Huron County Medical Society, July 11, 1910.

lence of the 1907 epidemic in New York and vicinity, Flexner studied in various ways a large number of fluids, obtained by lumbar puncture. The cellular nature, protein strength, bacteriological contents and pathogenicity were investigated. Since September, 1909, when poliomyelitis reappeared in a form of a focalized epidemic in Greater New York and the adjacent country, he secured the spinal cord from two persons who had died of this disease. The conclusions of this work are as follows:

1. Transmission of disease (experimentally): (*a*) intracranial injection; (*b*) intraperitoneal injection; (*c*) intravascular injection; (*d*) intraneural injection; (*e*) intranasal or pharyngeal injection.

2. Infecting agent belongs to minute and filterable viruses with special affinity for cord and medulla. Virus may be of protozoan nature.

3. Virus is in: (*a*) cord and brain; (*b*) blood (certain stages of disease); (*c*) certain lymph glands; (*d*) mucous membrane of naso-pharynx.

4. Virulence: human cord will stand 2°—4° C for forty days.

5. Incubation period, four to thirty-three days.

6. Spinal fluid.—When a considerable dose of virus is injected intracerebrally, the cerebrospinal fluid shows the following changes at the various periods: (*a*) *twenty-four hours after injection*, normal quantity, contains a considerable number of small cells (size of lymphocyte with polyform nucleus), a few lymphocytes and some red corpuscles; (*b*) *forty-eight hours after injection*, white cells have increased in number, but polyform nuclei cells still predominate; (*c*) *seventy-two hours after injection*, a large number of mononuclear cells have appeared and fluid presents a striking opalescent appearance; (*d*) *fluid withdrawn on third day after injection* contains virus; (*e*) *on day of paralysis* (*sixth*) the fluid tends to be only slightly cloudy, and contains a mixture of large and smaller lymphoid mononuclear cells and a few cells with polymorphonuclear nuclei.

These experiments show that the cellular changes in the meninges and cerebrospinal fluid begin immediately after intracerebral injection of the filtrate, and are thus present several days before the onset of the paralysis. Should this observation be confirmed for human beings, a valuable method of diagnosis of atypical and abortive or non-paralytic cases would be secured. An abrupt change in the nature of the cerebrospinal fluid from being opalescent, rich in cells and spontaneously coagulable just before or at the time of the paralysis, to a more limpid fluid, poorer in cells, immediately after, often occurs.

7. Portal of entry.—It has been proven that acute poliomyelitis can be produced in monkeys by infections through the nose and pharynx with specific virus.

8. Portal of elimination.—There is one path at least through mucous membrane of nasopharynx.

9. Passive serum protection —Monkeys who recover from paralysis, either perfectly or with residues, are insusceptible to reinoculation with the virus.

The question therefore arose as to whether the immunity principles existed in the blood in sufficient concentration to be capable first of neutralizing the virus in vitro and next in bodies of infected monkeys. The experiments to determine the former were made with a maximal virus of which 2 c.c. of a filtrate were mixed with 2 c.c. of the serum of recovered cases, incubated for one hour at 37° C and then placed in refrigerator overnight. This mixture failed to cause paralysis in monkeys when injected intracerebrally, although the control animals succumbed in usual period. Normal monkeys' serum has no such restraining action. The successful outcome

of this experiment suggested that the blood of persons who had recovered from poliomyelitis contained similar immunity principles. The blood serum obtained from children was used for experiments. The monkeys having received the mixtures of filtrate and serum are still well, while control animals have succumbed.

Flexner drew the following conclusions: (1) that if the quantity of the virus injected into the brain eighteen to twenty-four hours before the serum treatment is begun is not in excess of a given dose, the action of the virus can be prevented; (2) that the infection of the meninges from the nasal mucosa can be also prevented by serum injections; (3) that normal monkey serum has no such restraining effect; (4) that horse serum is entirely without preventive action and tends rather to hasten the onset of paralysis.

10. Bacterial findings are either contaminations or secondary invaders.

11. Immunity.—An attack confers a definite immunity.

There are changes in both the interstitial and parenchymatous tissues, but the interstitial are of fundamental importance, and the parenchymatous are secondary to them. The ganglion cells are affected only secondarily, and when in contact with the inflammatory process around the vessels. The interstitial process is dependent upon its relation to the vessels for its character and its localization. While the lesions are most marked in the anterior horns of the cord, it is not confined to that portion of the gray matter, and hence the word "anterior" should not be used to designate the disease. The white matter of the cord is the seat of inflammatory changes of minor importance. The pia infiltration is an essential element in the pathological process. The involvement of the medulla, pons and basal ganglia always occur in fatal cases, though clinical experience has shown that such involvement does not necessarily mean a fatal prognosis. The ganglion cells in the medulla, pons and basal ganglia generally escape serious morphological alteration, even when they lie near foci of infiltrated tissue. This condition is in striking contrast to what occurs in the spinal cord. The brain cortex may show evidences of vascular irritation and sometimes of cellular infiltration. The œdema which is present in both white and gray matter is an important factor in producing the paralysis, and explains to a large extent the transitory character of the symptoms in cases which survive. The predominating rôle which has been ascribed to the central artery of the spinal cord by previous observers is unjustifiable. There is no evidence of thrombosis, which has been considered by some to be the cause of the pathological condition in this disease. Apparently the infective agent may affect any part of central nervous system.

The onset of acute poliomyelitis is sudden, with fever (usually), chill (at times), convulsions and delirium (perhaps), pain in back, body, limbs, and head (sometimes), and digestive disturbances, vomiting, diarrhœa, with general malaise. The fever lasts as a rule several hours or days. The paralysis begins in a day or two. Pain, rigidity of neck and back are due probably to meningeal involvement. The sphincters are not involved as a rule. Sensation is not lost. The course of the disease may be divided into four stages: (1) febrile (few hours to several days with rapidly increasing paralysis); (2) stationary period (one to six weeks); (3) stage of improvement (six to twelve months); (4) stage of permanent disability (rest of life). The character of paralysis: (1) flaccid in character; (2) atrophy of affected muscles; (3) reflexes of affected part are obliterated; (4) reaction of degeneration is present; (5) sphincters are not involved as a rule; (6) there is

an atrophy and lack of development in the bone, fasciæ and vessels; (7) there may be an increase in cutaneous fat.

Treatment.—(*a*) Onset of disease (treatment must be directed to relieving pain and to promoting elimination). 1. Calomel and castor oil, followed by some saline laxative. 2. Warm compresses or bath; catheter if necessary (for retention of urine). 3. Ice-cap (for headache). 4. Tepid sponge (water or alcohol), asperin, phenacetin, antipyrine (if fever is high). 5. Prolonged hot water bath (104° F) for fifteen minutes four times daily, with straightening out of limbs (for paralysis in acute stage). 6. Counterirritation with mustard plaster on spine from nape of neck to small of back.

(*b*) After treatment.—1. Nourishing food. 2. Voluntary movements. 3. Passive movements. 4. Massage. 5. Galvanism. 6. Surgical: (*a*) extreme cases, flaillike joints without muscular power, arthrodesis; (*b*) less severely afflicted cases, most muscles of leg involved, but muscles of thigh are strong enough to walk, use braces or arthrodesis; (*c*) mild cases, certain muscles of extremity are gone while other muscles are normal, tendon transplantation; (*d*) slight forms, nerve transplantation.

GENERAL CONCLUSIONS

1. Acute poliomyelitis (infantile spinal paralysis, acute atrophic paralysis, regressive paralysis) is an acute infectious disease, occurring chiefly in children and occasionally in adults. It is characterized by sudden loss of power in one or more limbs, and followed by rapid atrophy of the paralyzed muscles and by an imperfect growth of the limb affected. It is attended by pain which may be slight, but not by any permanent sensory disorders. Sporadic cases are constantly with us, while epidemics have occurred in Europe, Australia and America.

2. It occurs most commonly in children between ages of one and four years. June, July, August and September, are the months when most of the epidemic cases have their onset.

3. Flexner has proven that one portal of entry is the nasopharynx.

4. Virus is eliminated through the nasopharynx. Whether there are other modes of elimination has not been proved.

5. Infecting agent belongs to minute and filterable viruses. It may be protozoan in nature.

6. Incubation period is from four to fourteen days. It may be longer in some instances.

7. An early diagnosis is desirable (epidemic cases), and it has been suggested that the spinal fluid be withdrawn early. Many of these cases will show an increase of proteids and change in lymphocytes.

8. Serum treatment of this disease is still in an unsettled state.

9. It has been suggested that poliomyelitis, like meningitis, may be found to arise from several independent causes. It might be divided into epidemic form, with its specific virus, and other forms with their non-specific viruses.

10. In epidemic cases Collins suggests quarantine.

11. Apparently there is a difference in the mortality of sporadic and epidemic forms. In the latter the average is about 5%, while in the former 1% or less.

12. A thorough trial of hexamethylenamin would be desirable in the meantime, as well as a careful attention to the hygiene of the nasopharynx.

SOME PHASES OF PSYCHO-THERAPY*

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From earliest times that elusive will-o'-the-wisp, the influence of the mental over the physical, has fascinated and lured mankind on to ever deeper investigation. Its popularity has flagged now and then, but although suggestion was first practised by the serpent in Eden, it should not brand psychic means of influencing bodily states with that contempt too commonly accorded them.

Distinct references to psycho-therapeutic measures are found in the history of medicine in the early centuries, but in more recent history one recurs most readily to the frauds of Mesmer, when the rich and poor of Paris, alike, were the ready dupes of this charlatan, and even the government itself offered him 20,000 francs for the secret of his alleged animal magnetism. The dimly lighted apartments, into which patients were ushered to the accompaniment of slow music, the heavy perfume, the blue flame, all savor of the fraudulent, but the psychic effects were tremendous. Even earlier, Gassner had produced like effects by the laying on of hands, and how religious history is filled with accounts of the virtues of shrines, relics, and cults is a matter of common knowledge. Too often fraud and the grasping hand of the charlatan are seen, but they have but played for low ends with forces the deeper secrets of which they were too small to master and too insincere to delve for. Not all of these historic stages have been in vain. They have had their lesson. History is filled with illustrations of the mighty power of psychic means over bodily and mental departures from the normal. Do not, however, deem me a therapeutic Nihilist with reference to other measures, nor an apologist for or defender of the spurious and the fraudulent.

Revolt how he would, the patient student could not escape from the fact that here was a force to be reckoned with and worthy of a deeper study. Every thoughtful physician has been at times surprised with what he has accomplished without drugs or other means than his own personality, and has been made to realize that whether he will or no, his psychic influence is no small part of his success as a physician. He has come to know that not always is it his best office to administer drugs, that intangible but none the less certain influences often may do more for his patient at certain times than pill or potion. The very air with which a prescription is given may have not a little to do with its effect. The very positive suggestion that a remedy will produce a certain effect is at least many times a synergist. We are prone to forget that voluntarily or involuntarily we practise psycho-therapy in some form. If ever, with us it merits some careful attention that we may make the most of its possibilities.

It is too commonly contemplated from afar, as a fetich, worshipped only by the warped, and regarded as a mystical mummy whose wrappings it were a foolish waste of time to penetrate. Just as deep igno-

* Read at the Forty-fifth Annual Meeting of the Michigan State Medical Society, Bay City, September 28, 29, 1910.

rance and superstition may be fostered by this attitude as has been noted in the duped worshippers at the shrines of fraud and charlatanry. The superstitious phase, then, is a double-edged one, against which we need to guard ourselves. The broad-minded physician can ill afford to turn his back contemptuously upon all facts and thoughts of psycho-therapy.

There is something in it sufficiently convincing so that it has not lacked for a certain varying popularity. True, it is the pseudo-genuine phases which have swept in waves and attracted the larger numbers, and, as is the case in all fads, it is not from the most intellectual class that enthusiastic votaries have been largely drawn. Deep-thinking and level-headed leaders have at times been painfully surprised by an unexpected and frivolous popularity, born of meager thought and the desire for amusement; but sober thinkers have earnestly sought to elucidate the principles underlying psychic influence, and have been content to work patiently and studiously along lines of real merit.

Too long psychology was disregarded in these studies, and comparatively lately only has it come into its true relation as a fundamental science without which real advance in the knowledge of psycho-therapeutic principles is well-nigh impossible.

One of the very lightly considered and now (happily) passing phases is that hybrid movement which sought to establish a partnership between the Church and Medicine in the treatment of disease. Its founders had had some psychological training, and much was said about the psychological principles upon which all was based, but a popular lecturer upon the subject, in reply to my question as to what psychology had been of most help to him, replied that really he was not a psychologist and did not know much about psychology. I fancy that most of the leaders knew even less than he of psychological principles.

But how much more ignorant of disease, either organic or functional, these clerical therapeutists are. Amusing, indeed, is the smug satisfaction with which they have eagerly jumped to the conclusion that when once the medical partner had determined the functional nature of the disease, it was to be properly turned over to the clerical operator for treatment. The very conclusion that the clerical profession is better fitted than men of medical training to treat functional diseases is born of an ignorance of disease-conditions so great as in itself to bear the ultimate death-knell of the movement. Many estimable men of the cloth have scrambled into authorship upon the subject. I noted one making the statement that these functional diseases had only existed for the last fifty years, and between the pages of his work were other statements of equally profound wisdom. They flippantly criticize the practice of medicine, proclaim their ability to cure 80% of alcoholics, and even boast of cures by "absent treatment." But the gentlemen of the clerical profession are, for the most part, neither by education or training, fitted to be advisers in the management of disease-conditions, organic or functional, and it is a happy omen that the treatment of disease bids fair to never pass, to any large extent, into the hands of those so little fitted to judge of therapeutic needs, and medical partnership with the Church in the treatment of disease promises to be an abortive affair whose requiem we shall early hear.

Frivolous and worthy of little note are such attempts at psycho-therapy as we have recently heard so much about, when compared with that genuinely scientific and meritorious work founded on psychological principles and which has as its aim thus to rationally evolve an accurate knowl-

edge of the workings of the abnormal mind. Among those who have patiently labored to evolve the psychological principles which are most helpful in the treatment of abnormal psychic states, have been Freud and Jung. Freud has evolved principles of psycho-analysis which, though still much criticized, are nevertheless proving distinctly beneficial in the management of many mental cases. Especially helpful are his methods in obtaining an insight into the workings of the abnormal mind. This enables diagnosis, as it should, to precede therapy, and makes this intelligent and precise in aim, as it could not otherwise be. For sixteen years Freud has been working along these lines, and though they be somewhat intricate and complex, his work is becoming distinctly valuable and its scientific worth becoming more and more appreciated. Already some of our best asylums have assigned certain members of their staff to special work along the lines of psycho-analysis, and by these means the physicians have found themselves in position to more intelligently minister to their unfortunate charges.

Let me attempt to briefly and very elementarily elaborate some of the principles of this work. Although the normal mind absorbs and digests its ordinary train of mental processes, thus harmonizing the personality with its environment, it also successfully and permanently represses interpolated undesirable and improper thoughts. They are thus satisfactorily sidetracked. In some minds, however, this process is not so easily accomplished, and the repressed complex may act as a mentally irritating foreign body. Hence arises a conflict between two sets of mental processes, and thus is produced a defect in assimilation. The repressed complex may unconsciously assume activity and become annoying and beyond the control of the will, and this is likely to be the case with strivings, desires, and impulses, if not absorbed into the personality. Abnormally strong emotions may be awakened by anything associated mentally with the repressed complex.

This may be an involved process, and the difficulty may be large in tracing the way back from a symptom to the repressed complex, but this is one of the problems which by certain methods Freud sets out to accomplish. Then, if the patient can be made to appreciate the significance of his symptom and its relation to the mental process by which it is evolved, we shall be in a position to help him. This obviously presupposes intelligent coöperation on the part of the patient. The ignorant and uneducated could be little helped by these methods, of which there are several. Hypnosis is one, though this is little likely to find great favor in this country. That method developed and most used by Freud is founded upon the psychological law of association, though a study of conduct, mannerism, slips of speech or writing is not infrequently helpful in detecting some repressed train of thought.

Jung has done much to develop the word-reaction association method, and this is especially helpful and much used. A series of test words are called out to the patient, who responds with the first word thus suggested to him. The time-reaction is carefully noted, as also undue delay in responding, failure to respond at all, repetition of the test-word, slang associations, application of unusual meaning to the test-word as evidenced by the response, and incorrect reproduction of the reaction when the memory is thus tested. The patient's attitude or facial expression may betray the emotional tone of certain associations, and these are to be noted. Such methods have many times evolved a tolerably complete story of past happenings in the pa-

tient's life which have been hitherto repressed, and have led to painful mental disturbance. When these can be satisfactorily uncovered, the physician is obviously in better position to help his patient by suggestion or otherwise.

Freud has devoted much time and thought to the interpretation of the significance of dreams, and by this study he has had great success in reaching mental contents which had hitherto been kept hidden. He finds that dreams hark back to some repressed thought or experience, usually of a sexual nature, and though Freud has been freely criticized for his emphasis of the sexual, yet it is surprising how frequently true it is that the mental departure from the normal dates back to some unfortunate sexual train of thought or sexual experience, in cases of hysteria, the various phobias, anxiety neuroses and other mental ills. The discovery of the origin of these dreams is often a revelation to the patient himself, and leads him to a possible control of the repressed mental complexes which had produced his morbid symptoms.

Is it not obvious that if we can, whether it be by a study of dreams and their interpretations or by the application of the association-tests, formulate a psycho-analysis which shall clear up the reason for a morbid mental state, we shall then be in a vastly better position to help an intelligent patient to correct his mental warrings and again adjust himself to his environment?

Suggestion, persuasion, re-education, all legitimate forms of psycho-therapy, have their more or less limited uses and accomplish no little good, but it has been my object to call your attention more especially to the work of Freud and give you a glimpse of some of its underlying principles, unsatisfactory though this may have been.

The work by these methods takes time, demands great patience, and often many seances are needed to unravel a tangled mind. It is sufficiently technical so that only those who have given it special attention are likely to attempt its methods, but it seems rational, founded on scientific principles, and is an advance of which the general practitioner should know, even if he is not to follow it in detail. Let me give you, in the words of another, a close student of Freud who has worked with him, an estimate of the value of his psycho-analytic methods. "In suggestion, the physician adds something to the patient's mind,—confidence, belief, etc.,—and thus makes the patient more dependent on him. The psycho-analytic method does not add; it takes away something, namely inhibition. It enables the patient to disentangle confused mental processes, and, by giving him control over the disharmonies of his mind, leads him to develop a greater measure of self-reliance and independence. The training received by the patient is thus an educative one in the highest sense of the word, for he not only achieves a richer development of will-power and self-mastery, but acquires an understanding of his own mind which is of incalculable value for future prophylaxis. He grows both in capacity to know and in ability to do."*

*Dr. Ernest Jones, in *Journal of Abnormal Psychology*.

NOTE—For Dr. Klingmann's paper, see the *Medical Record* for January 14, 1911.

Discussion on Papers of Drs. Hitchcock and Klingmann

Dr. Johann Flinterman, Detroit.—It has never seemed to me that cases of hysteria should be produced by the causes that the Doctor speaks of. As far as the sexual factor is concerned, I believe that is absolutely exaggerated. There are a great many people you see who have had an experience of that kind, but they are absolutely forgotten, sub-conscious, latent. I believe that hysteria is caused by the fact that these people have inability of the nervous system. They

respond very little, respond gradually, and sometimes fail to respond at all. Now all these things cannot be explained, as far as I know, by the statements of Freud and others.

Now as to the relation of past experiences, isn't it possible that the person is mistaken about it? Who knows everything that has happened in life, and with correctness? There is another factor. Hysterical people are liable to invent, to make themselves very conspicuous. We should be very slow to accept what Freud and Jung have given to the world. I read his book on "Psychology of Everyday Life," where he says that he is able to give a psychical analysis of a person who gives the number 1667, or any other number, but as far as that confession is concerned that it should relieve all the symptoms, I am very doubtful as to that.

Dr. Hitchcock (closing the discussion).—Let me say that I wrote my paper after I had seen the program and read the abstract of Dr. Klingmann's paper. I tried to make my paper introductory to his. I am sorry Dr. Burr is not here. He has had some experience, and he has been reading much along these lines, and there have been several cases in which we have been mutually interested, and in which we have both been surprised to find how the sexual element came to light in cases in which it was little expected. While Freud has been criticized for his emphasis of the sexual, yet it is wonderfully surprising how frequently the mental disturbance seem to hark back to some repressed complex of a sexual nature, and by that it is not meant that these patients have been at all immoral.

One of the best-posted men on this line in this country is Dr. Ernest Jones, of Toronto. He worked with Freud for a year or more, and is quite enthusiastic as to this work. I tried to get him over here, and I received this letter from him last night, which I will read:

Ernest Jones, Toronto, Ont.—I regret not to be able to avail myself of the kind invitation to join personally in the discussion on psycho-therapy, but should be glad of the opportunity of recording a few conclusions of my own experience. I have for years practised with the various forms of psycho-therapy, persuasion, suggestion, hypnotism, and so on, and recognize the fact that by means of practically all of them it is possible to obtain good and often brilliant results. Since learning the psycho-analytic method, however, I have discarded the others for the following reasons. The results obtained by this method far surpass in thoroughness and permanence those obtainable by any other; the patient is trained to a more complete personal independence, and has a greater power of dealing with the future difficulties of life; finally, the insight that the physician attains into the nature and structure of the neurosis is invaluable for his understanding of these disorders, and, therefore, for his capacity to manage them. The psycho-analytic method aims not at temporarily removing the symptoms, but at eradicating the source of the trouble; this can be done only by a knowledge of the meaning, origin and significance of the individual symptoms,—knowledge that can be obtained in no other way than by the use of this method. No harmful result has yet been observed in any case, and it is certain that with this form of treatment one can avoid many dangers that are sometimes inseparably bound up with the use of other forms, such as those relating to attachment of the patient to the physician, dependence on him, etc.

I am thoroughly familiar with the many objections that have been urged against this method of treatment, and am convinced that in every case they arise from misunderstanding, ignorance or prejudice. I have yet to hear of any objection that is not readily answered by knowledge of the subject, or by first-hand experience of it. In conclusion, my experience has shown me that in the psycho-analytic method we have a safe, reliable and fundamentally satisfactory form of treatment, which has not only given us a much-needed help in the management of the most baffling of disorders, but has greatly furthered our knowledge of the human mind both in health and in disease.

Dr. Klingmann, Ann Arbor, in closing the discussion, said: The discussion presented by Dr. Jones is entirely in accord with my views. The psycho-analytic method of treatment is the only scientific psycho-therapeutic method, and is the only method based upon sound psychology and sound medicine. While this work has just begun, we have a scientific basis upon which we can develop not only sound treatment for the psychoneuroses, but also new methods of diagnosis which will lead to a clearer interpretation of the symptom complex in this class of cases. The opposition with which Freud has met is entirely due to views which his opponents have taken of the individual sexual life. Freud has a very broad conception of sexuality. So in the case reported in connection with the author's paper there was no sensual act, nevertheless, an indirect sexual trauma was the causative factor.

A BUSINESS MAN'S COLD*

J. VERNON WHITE
Detroit, Mich.

In presenting this title as a subject for discourse, I do it, not with the belief that a business man's cold differs in any way from a layman's cold, but simply to offer some suggestions that may be of help to that class of people who are forced to continue their daily occupations when this common malady overcomes them.

This disease, "a common cold," is often allowed to run riot: it is practically ignored by medical men, by medical schools, or by text-books. It is a disease which incapacitates members of every class of society, and which, especially in the old and the young, in the feeble and debilitated, often is followed by the severest consequences. Besides the great inconvenience it causes, it is an active factor in overburdening an already embarrassed heart, it increases the difficulties of the chronic sufferers from bronchitis and asthma, and it often sets up the final catarrh in the latter stages of phthisis. It is its frequency rather than its rarity that should invite our attention and arouse our interest.

What, then, do we understand by a business man's cold? It is a local inflammation of any part of the respiratory tract, extending from the external nasal meatus to the bifurcation of the bronchi and affecting people whose business affairs prevent them from giving this malady unrestricted attention.

With regard to prophylaxis, it is important that proper clothing be worn and that exposure be avoided as much as possible. The temperature of the room is to be kept at about 70°F. Direct drafts are to be avoided, but ventilation and pure air should be insisted upon. Attention to the hygiene of the nose and throat should never be overlooked. Due attention is daily paid to the surface of the body, even to the teeth; surely the nose and throat, a breeding-place for every imaginable kind of pathogenic micro-organism, should receive equal attention.

By such attention we mean the proper hygiene of these parts, which should consist in douching of the nose once daily with some bland antiseptic or normal saline solution. Besides this daily bathing is of importance. A cold plunge, or one modified by standing in warm water ankle deep, while the body is sponged with cold, should be a routine practice. This modified cold sponge prevents the chilly reaction so many complain of while indulging in cold plunges. Another great danger is to disregard the moisture developed during a morning walk by sitting quietly in an office, even in a draft, where one falls an easy prey to "catching cold."

In spite of these precautions, colds will sometimes develop. To what are they then due? To predisposing and exciting causes.

If a person habitually "takes cold," it can be pretty certainly affirmed that there is some anatomic abnormality causing an obstruction to drainage. This abnormality may be in the shape of deflec-

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tions of the septum, exostosis, ecchondrosis, certain irregularities in size or position of the turbinate bodies, polypi, adenoids, enlarged tonsils, or thickening of the soft tissues overlying the bony wall which have become subject to rapid alterations in thickness from active or passive congestion or œdema. Such conditions, if present, must receive appropriate treatment in the way of chemical applications, constitutional remedies, incisions, or resections, etc., as the case may require. These abnormalities are, however, not the real or exciting cause of a cold. They act by interfering with proper drainage, and thus place the parts in a more receptive mood to the primary exciting cause of the cold.

This primary exciting cause of a cold has in the last few years been studied very extensively. It was hoped that a specific micro-organism could be found from which a vaccine could be procured that would once and for all time settle the treatment of this common pathological process. The results of the different investigators along this line have, however, been far from uniform. The bacillus of Friedlander, bacillus influenzæ, bacillus septus, micrococcus catarrhalis, the streptococcus, pneumococcus and staphylococcus, all, have been isolated singly or in various combinations, and all or certain groups have been looked upon as etiological factors. Vaccines have been prepared and used; in some cases with striking and almost marvelous results, in others with apparently no effect. The bacillus of Friedlander, the bacillus septus, micrococcus catarrhalis and bacillus influenzæ have been isolated in the greatest percentage of cases, and vaccines prepared from cultures of these have given the most promising results. I believe that the time for a definite vaccine is not far off. However, until then we must be content with the symptomatic treatment by the internal and topical use of medicines and other agencies in the acute attacks. This symptomatic treatment should, however, always be preceded, or if impossible at the height of an acute attack, during the intervals, by a thorough examination of the parts, to ascertain the cause of any defective drainage that may be present. For it can be demonstrated that the re-establishment of drainage prevents attacks by disallowing or at least modifying the action of the primary exciting cause.

We all admit that a cold, unless caught in its very incipiency, in which case it can often be aborted, is a fair sample of a self-limited disease. Symptomatic treatment properly carried out can, however, do a great deal to relieve suffering and discomfort and prevent the process from becoming subacute or chronic, but still more it can ward off some of the dangerous sequelæ which readily lead to such direful consequences.

To give a brief outline, or rather a few suggestions, as to how this can best be accomplished, is the object of this paper.

We will not argue for a minute that the best treatment for a cold is to have the patient go to bed and remain there, take a good cathartic, a hot bath followed by some medicine which will aid diaphoresis. This, however, is not always practical, and with some people absolutely impossible. We are, therefore, obliged to select a mode of treatment which is inferior, but which will nevertheless be very effective in minimizing the pain and discomfort caused by the malaise, headache, sore throat, cough, nasal discharge, sneezing, etc.

Briefly stated, such treatment will be along the following lines. The chilly feeling and aching is best controlled by a capsule containing pulv. Doveri grs. i, quinine sulph. grs. 2, and pulv. capsicum gr. ½ or phenacetin grs. 2, given every three hours during the first twelve hours. That night

on retiring one dose of pulv. Doveri grs. 10, quinine sulph. grs. 5, is given. This is followed by a hot drink, and an hour later by calomel grs. 4 and sodii bi-carb. grs. 20. The hot drink and Dover's powder will encourage free perspiration. The following morning before breakfast a seidlitz powder, Rochelle salts, or some other alkaline cathartic administered. The patient may attend to his business, providing his temperature does not exceed 99½ or 100°F. The turgescence of the nasal mucous membranes can always be controlled by the application of a 1% solution of cocaine. This is a good preliminary to nasal douching now to be given twice daily. This will contract the tissues sufficiently to allow the douche to remove all thickened secretions. It will also afford comfort to the patient without interfering with the normal mucous secretions which we expect to encourage.

After the first twenty-four hours have expired and the patient is left with only a slight increase in the temperature, not to exceed 100°F, with the aching and chilliness diminished, I would not consider it detrimental for him to attend to his business. Allowing him to do this, I would prescribe a mixture of potassium iodide grs. 2, ammonium chloride grs. 5, every four hours in camphor water, besides a capsule containing quin. sulph. grs. 2, salol grs. 2, and phenacetin grs. 2, to be taken every four hours. The former will encourage free secretion from the mucous membranes, and the latter will control what little temperature and aching remain. I here will state that I consider that the free use of quinine has the most beneficial effect of any remedy I know of in establishing a defense against pneumonia. From experience, I have found that by dissolving the quinine in dilute hydrochloric acid, its action will be more accentuated and pronounced; it will not lie unabsorbed in the intestines and pass as such from the bowels.

Should any fever remain at the end of the forty-eight hours, I would continue the quinine, etc., at the same time advising another cathartic consisting of pulv. glycyrrhizæ co. However, in the absence of fever I would discontinue the quinine, etc., as well as the potassium iodide and ammonium chloride mixture and substitute ammonium carbonate for a few days.

The nasal mucous membrane is very sensitive and subject to many changes following "catching cold." Consequently it should be given due consideration. The uncomfortable sensation of sneezing, and the familiar symptoms of pain and fullness about the nose and forehead, with flushed face, and eyes suffused, all of which contribute to this uncomfortable feeling, can largely be controlled by a cream containing 1 to 20,000 parts of adrenalin chloride and 10% para-amido-ethyl-benzoate in a bland oleaginous base. This, applied, has a more lasting anesthetic and astringent effect than cocaine; besides, it is less toxic.

It has always been difficult to prevent excoriations of nasal mucous membranes and of the lips resulting from the constant irritating discharges that flow from these sufferers, but, by limiting this discharge after the fever has subsided, great comfort can be had by a snuff composed of, menthol grs. j; sodium bicarb. grs. ij; magnesium carbonatis (levis) grs. iij; cocaine hydrochloratis grs. iij; saccharine lactis. drams. iss.

Most marked relief follows the use of the powder. Its effects are immediate, highly agreeable to the patient, and continue for a number of hours. The above can be continued until the discharge lessens and the mucous membranes again become normal.

Should the patient interpose any objections regarding the use of the snuff, a good substitute is menthol grs. 6, chloroform

5, camphor grs. 5, liquid albaline or benzoinol ounces 2. Use in an oil atomizer every two hours.

The acute stage having passed away, we should not at once dismiss the case, but make another effort to ascertain whether any abnormality exists. Particular attention should be given the middle turbinate. We should see whether or not it occupies the whole space, thus preventing the flow of normal secretions. Obstructions from this cause favor the development of pathogenic micro-organisms, which in turn are very apt to set up endless sinus disease or other chronic inflammation. Enlargement of the inferior turbinates are not so frequently detrimental, but even they should receive proper consideration.

You will notice that I have not alluded to many remedies in treatment of the disease under discussion, because I fear the great number recommended for the relief of this condition, "a cold," might confuse the casual observer. Consequently I have only spoken of such as in my opinion are efficacious and direct in their action.

The constitutional treatment already referred to will, to a large degree, ensure relief to the ordinary pharyngitis and laryngitis, but should there arise an infectious sore throat as a part of one of the exanthematous diseases, proper treatment for the combined condition will of course have to be instituted.

I have only endeavored to give you a resume of the method I have followed for some time in the treatment of the ordinary "colds," with such variations as I have deemed necessary to meet unforeseen symptoms. All such treatment is to be carried out without confining the patient to bed or in any way preventing him from attending to his business, which in most instances he considers of paramount importance to his success in life. This very success, especially if acquired at the expense of bodily fatigue and mental restlessness, is one of the greatest evils of the day. Attained by such a tremendous sacrifice, it will never remain as a monument to our energies.

We must admit that this spirit of success prevails, and that it is foremost in every business man's mind. We are, therefore, forced to recognize a growing demand for a treatment that will permit him to follow his business pursuits without endangering his health and at the same time without sacrificing his interests. Such a treatment we have tried to set before you, and judging from our experience with this method in the past, it certainly deserves your consideration.

57 Fort Street West.

Discussion

Dr. M. L. Holm, Lansing.—I would like to ask Dr. White a question regarding etiology. We may have an atmosphere in cold weather or the winter months which has a high or relatively high humidity, but when such air is drawn into a room and heated, its capacity for moisture increases and the relative humidity diminishes. Thus in zero weather, the relative humidity may be say 75 or 80% saturation. When this same atmosphere is heated to 70 or 80° F., the relative humidity will fall to probably 15 or 20% saturation. An atmosphere with a relative humidity of only 15 or 20% is very dry and irritating to the nasopharyngeal mucosa. I would like to know whether, in Dr. White's opinion, the inhalation of such an atmosphere would not be an important factor in producing a cold. I have heard some physicians speak of "heat cold" in the winter months, and I have wondered whether it was not the absence of moisture rather than the heat which was the important etiologic factor.

Dr. White (closing).—It is true that atmospheric conditions are active causes in producing a cold by suddenly raising and lowering the surface temperature. But our aim should be to place the body, and especially the surface arterioles, in such a condition that these sudden changes of temperature can readily be borne without ill effect to the individual. This can be done by increasing and perfecting the "vascular tonus." The hygienic measures I have advocated, principally the cold plunge, will accomplish this better than anything else.

INDICATIONS FOR PROSTATECTOMY*

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A large proportion of all old men have enlarged prostates. Seventy-five per cent. of men sixty years of age have hypertrophied prostate, but only about fifteen per cent. suffer inconvenience therefrom. Symptoms of large prostates develop between the ages of forty-five and sixty years most commonly, although they may be encountered in men of thirty-five or past eighty. The enlargement always begins before sixty, but may not cause inconvenience until later. Many men are to-day living in great discomfort because of an hypertrophied prostate, but have never consulted and may never consult a surgeon, the family physician being the only doctor consulted, and he so seldom examines the prostate the sufferer gets little comfort from his doctor's prescriptions; then the patent nostrums and the charlatans are tried.

Sexual neurasthenia, or phrenitis prostatica described by J. F. Percy, in which a large, usually soft prostate, that does not require the patient to use the catheter, but does cause sufficient irritation to produce inordinate sexual desire, and in some cases leads to sexual perversion, is cured by prostatectomy. These cases are usually found in men from sixty to seventy-five years of age. It is possible that the prostate gland has or produces an internal secretion. The prostate has been termed the sexual solar system. When the function of the prostate becomes perverted in the young man, it causes sexual neurasthenia. And I have yet to see the large irritable prostate in a man whose sexual mentality is well balanced.

Enlarged prostate, with retention of urine, produces various degrees of mental disturbance, even acute mania, which entirely disappears after prostatectomy.

Enlarged prostates are predisposed to malignant degeneration. An hypertrophied prostate in which nodules can be felt per rectum is most certainly carcinomatous, and only early removal yields good results.

Prostates that are the seat of multiple abscesses should be removed by the perineal route as soon as discovered; by the perineal route because of better drainage. Single abscess of the prostate may recover without prostatectomy, as has been observed in three of the author's cases.

All hypertrophied prostates that cause the patients to lead a catheter life should be removed.

A large percentage of hypertrophied prostates are complicated by cystitis, and many with pyelitis, and some with nephritis. Many have cystic calculi; but none of these complications contraindicate prostatectomy.

New growths of the prostate demand immediate removal.

A cystoscopic examination should precede operation if possible. It is not possible to introduce the cystoscope into the bladder in some cases, but this instrument should be used if possible, as so much valuable information may be obtained by viewing the posterior prostatic urethra and the bladder walls.

We occasionally find calcareous deposits in the mucous membrane around the internal meatus causing ridges to form that act

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as valves, at times, obstructing more or less completely the flow of urine.

The cystoscope assists greatly in determining the choice of route for operation (the suprapubic or perineal).

Glands the lobes of which project into the bladder are usually best removed through the suprapubic incision, as are those complicated by numerous small or very large calculi, also the calcareous submucus deposits before mentioned.

The preliminary incision of the bladder under local anesthesia for the purpose of providing drainage and employing almost continuous irrigation, has much to commend it in extremely feeble patients. Subsequently, as the patient's strength returns, the prostate may be removed with very slight shock following. The prostatic elevator or the assistant's finger in the rectum is indispensable to good suprapubic work. The perineal route is to be preferred in the majority of cases, because it affords more perfect drainage, and nearly any sized gland ever encountered may be removed by this route.

TECHNIQUE OF OPERATION

A large staff grooved on its posterior surface is placed in the urethra and held by an assistant. The author prefers a median incision one and one-half inches in length midway between the scrotum and anus. The scalpel is used to incise the skin only. Blunt dissection with artery forceps then is made to the membranous portion of the urethra. The finger locates the groove in the staff, and the scalpel incises the urethra against this groove.

The staff is then withdrawn and the finger pushed through the incision into the urethra and on through the internal meatus into the bladder. Then the hook or beak shaped prostatectomy knife is guided along the finger until the internal meatus is reached, the beak turned outward or laterally and drawn back, cutting the capsule and avoiding the vas. A similar incision is made in the capsule of the opposite side of the urethra in case both lateral lobes are to be removed. Only the anterior urethra is necessarily preserved. The finger now is made to enter the incision in the capsule and loosen the lobes, which are withdrawn by the forceps. Bleeding is controlled by very hot sponges. A self-retaining recurrent irrigating tube is pushed through the incision into the bladder, and three or four gallons of hot boric solution allowed to flow through it. The patient is given continuous rectal saline until he can drink water freely. He is given spartine for its diuretic effect. The bladder is irrigated with warm boric solution, one gallon every two or three hours for three days, at the end of which time the tube is withdrawn, and irrigations stopped.

The patient is kept in the Fowler position at first, and encouraged to walk about as soon as the irrigating tube is withdrawn.

He is told his life depends upon the amount of water he drinks.

These patients, more than any others, need water. They have been drinking very little water before operation because the more they drank the more discomfort they had.

After suprapubic operations the same general plan of irrigation is followed, but the tube is allowed to remain several days longer, as the drainage is not so perfect.

The flow of urine is always controlled by the three swells of muscles at the internal meatus. The capsule is never removed and the walls collapse. Perineal fistula will not heal if cystitis persists or calculi are present.

Let us give the poor old man fifteen minutes' time, which is all that is necessary to remove his enlarged prostate, and allow him to enjoy his declining years in urinary comfort, and he will bless us.

SPINA BIFIDA*

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Spina bifida is a congenital malformation of the spinal column resulting in a hernial protrusion of any of the structures contained within the spinal canal. The lumbar and sacral regions of the spine being the last to close in the embryo make this defect more common here than in other planes. The protrusion occurs more often posteriorly, but may appear through a lateral or anterior defect. It is of equal occurrence in either sex, and happens about once in one thousand births.

Etiology.—Its etiology is not well defined. Amniotic bands and local inflammatory processes, disproportion between the growth of the canal and cord, imperfect separation of the skin and medulla, and increased pressure from within, have been advanced by various authorities in explanation of the defect.

Embryology.—The nerve elements of the spinal cord are of ectodermic origin. The cord is an invagination of the ectoderm, forming a groove which in the embryo is widely open, gradually closing to form the neural tube.

The mesoderm supplies the serous, bony and muscular elements which surround the neural tube. A mal-union, or absence of the involuting mesodermic structures which form the vertebral arches and spinous processes, will leave a cleft through which the meninges alone, or together with the spinal cord, will protrude because of lack of support.

This defective closure of the spinal column may be partial or complete.

Complete absence of union of the walls of the medullary canal is termed "rachischisis," being an uninterrupted opening, extending from the cervical to the lumbar region.

This latter variety is of rare occurrence, and is not amenable to surgical interference.

In the circumscribed type of spina bifida, the protruding tumor may vary from three to fifteen centimeters (one to five inches) in diameter, having either a broad or pedunculated base.

Several cases are recorded in which the protrusion was anterior: one by Willard in a child two months old; by Emmet in a woman of thirty-six; by Robinson in a child of eleven months; and by Bryant in a woman of twenty-five, the origin of the tumor discovered by operation for supposed ovarian cyst. The fluid contained within these hernial tumors is always cerebrospinal fluid.

Varieties.—The defect may be confined to one arch, often several are involved, and rarely all. In the majority there is an absence of epidermis, which serves as a starting-point for infection, by the extension of which a fatal meningitis may ensue. The epidermis always unites if the medullary canal closes, though the mesodermic structures may present defects. A cleft in the dura usually accompanies one in the bone, but the pia and arachnoid are always closed if the cord in its development has formed a central canal.

There is much confusion in the description of the varieties of spina bifida proper. Three forms are usually described: (1) spinal meningocele; (2) myelomeningocele, also called meningomyelocele; (3) myelocystocele, also called syringomyelocele.

* Read at the Forty-fifth Annual Meeting of the Michigan State Medical Society, Bay City, September 28, 29, 1910.

These forms have in common a cleft of the bone and of the dura, as a rule. Rarely a meningocele may protrude between two normal arches, in which case the opening often becomes closed, so that the sac no longer communicates with the subarachnoid space.

In meningoceles there is a hernial protrusion of the arachnoid in which cerebrospinal fluid collects, distending it to form a single globular cavity often of large size. The pedicle is narrow and as a rule the skin is normal in appearance. Myelocystoceles have a sac with a wide base, a somewhat flattened contour, often subdivided by partitions. Nerve roots, cauda equina, or flattened cord, may be contained within and attached to the sac wall.

In myelocystoceles fluid accumulates within the central canal, distends it and the over-lying substance of the cord, causing atrophy of this portion, this being especially noticeable in the dorsal region.

The sac does not contain nerve elements, as it is distended central canal.

This variety is often combined with deformities such as club feet and hydrocephalus.

Symptoms.—Many meningoceles give rise to no symptoms aside from the presence of the tumor; in other forms there may be paralysis of the bladder and lower bowel, often combined with varying degrees of paralysis and sensory disturbances of the lower extremities.

Diagnosis.—The congenital origin and position of the tumor filled with fluid, the tension of which varies with posture and the expiratory efforts of coughing, crying, etc., should render the diagnosis easy.

The X-ray examination, or palpation of the tumor under general anesthesia, should assist greatly in determining the sac contents and in guiding the surgeon as to operative procedure.

Prognosis.—The prognosis in general is unfavorable; most cases die early. Of 649 children that died of spina bifida in England in 1882, 612 were within the first year. Among 90 not operated upon, the majority died within the first few weeks; only twenty lived to be over five years of age.

Usually, as the tumor increases in size, the skin is liable to ulcerate, leading to perforation of the sac, infection of the meninges and death. Rupture of the sac may occasionally be followed by spontaneous cure. When the sac communicates freely with the central canal of the cord, sudden emptying may cause a quick fatal termination.

In the paralytic cases the constant danger of urinary sepsis always threatens life. The prognosis is most favorable in meningoceles, next in myelocystoceles, and least in myelomeningoceles.

Many of these patients surviving radical treatment die of hydrocephalus or the secondary effects of existing paralyses.

Treatment.—In many cases nothing but palliative treatment is indicated. Measures to prevent ulceration should be employed, with a view of tiding the condition along to a time best suited for radical treatment.

The surface should be kept clean by daily spongings with alcohol and the application of a drying powder, or smeared frequently with sterile vaselin. If rupture occurs, immediate excision and suture should be done, to avoid infection. Aspiration of a dram or two of the serum, followed by injection of an equal quantity of Morton's fluid, which is composed of iodine 10 grains, iodide of potassium 30 grains, and glycerin 1 ounce, may be employed when open operation is contraindicated.

This should be repeated every ten days for two or more times where there is promise of cure.

The injection method, however, is not

free from danger, and its efficiency is very questionable. Many of the cures reported by this means were undoubtedly in conditions of closed sac, where the communication between the sac and subarachnoid space, or central canal of the cord, was occluded, the iodine acting on the principle that it does when injected into closed serous sacs elsewhere.

In the report of the London Clinical Society of seventy-one cases treated by this method, thirty-five were cured, four improved, five not improved, and twenty-seven deaths—a mortality of 38%.

Morton's own statistics show a mortality of only 15.3%.

The cure by this method results from the adhesion of the sac walls due to inflammatory reaction.

At the present time, the open operation is almost invariably the one of choice. Hydrocephalus, marked paralyses, and irreparable deformities elsewhere, are considered contraindications for operation. Marked improvement, or even cure, has occasionally followed operation where the paralysis of the lower extremities was pronounced. It is evident that in all cases presenting moderate symptoms of paralysis the operation is indicated, and in the extreme conditions the operation should be advised, if for nothing more than relief from the unsightly deformity.

As Woolsley says, "An unfavorable result from the operation is no worse than is to be expected without operation." As to age, there is much diversity of opinion; some advise operation as early as possible, while others would wait for several months or years. The mortality is higher in those done within the first few months, that of 35%, as compared with 4.7%, in those five years old or over. Of the several varieties, meningoceles are the most favorable for operation.

Operative Technic.—Concerning the operation Murphy says: "Excision of the sac seems to be the radical and more desirable procedure. The sac is best attacked from the side because the fibres of the cord are more frequently spread and attached to the median portion of the posterior wall, within the line of embryonal cleavage.

"When the sac is pedunculated it should be first freed from its attachments to the skin and neighboring structures except its highest point, which is adherent to the over-lying layer; there an elliptical cutaneous flap should be permitted to remain attached to the sac wall. When the latter is freed to a level with the cord, a provisional ligature should be thrown about its neck and tied sufficiently tight to control leakage.

"The sac should be opened, and if the cord is not protruding, the ligature is firmly tied; an over-stitch of catgut should give it additional support.

"If the base is broad the same procedure should be followed, except that after opening the sac and inspecting the interior, the ligature should be removed and substituted by a careful suture of the pedicle after amputation.

"If the condition is found to be one of syringomyelia and if the cord protrudes into the sac, the cord fibres should be freed from their attachment to the meninges and replaced in their normal position; the opening in the sac closed with a suture that is not too readily absorbed.

"When the protrusion is one of syringomyelocele, the cord should be amputated in both directions and a careful end to end suture of the fibres made if the spina bifida be situated in the caudal zone. When above this zone, the cord should be freed and replaced within the dural sac without suture, the opening closed with little prospect of relieving any existing paralysis."

REPORT OF OPERATIONS

Case I.—Albert K., age seventeen months.

Large spina bifida of lumbo-sacral region with double talipes. Operation September 12, 1908. Ether anesthesia.

Sac excised by elliptical incision around base of tumor, and separated from surrounding structures down to level of arches. Temporary ligature of kangaroo tendon placed around neck of sac and tied sufficiently tight to control leakage.

Sac opened, and found to contain serum and slight protrusion of cord, which was easily replaced within the canal and ligature of base tied securely. Sac excised and cleft covered by catgut suture of muscles. Skin closed by silk-worm gut suture. Gauze drainage.

Patient suffered little shock and did well for following two days, when an attack of green stool diarrhœa caused infection of suture line.

Local and general conditions bad for following two weeks, when finally wound closed by granulation.

Result two years after operation.

No recurrence of tumor. Talipes not improved, although able to walk with marked deformity of feet.

Case II.—William W., age two years. Large spina bifida of lower cervical region. Tumor ruptured with leakage of serum, but not collapsed.

Patient unable to walk unless supported. Coördination of lower limbs imperfect. Operated March 21, 1910. Ether anesthesia.

Sac excised as before and previous technic followed, except that thumb and forefinger pressure of the neck of the sac was substituted for the provisional ligature.

Ruptured sac found to be a syringomyelocele and the one remaining intact a meningocele. No leakage from the arachnoid on emptying the meningocele, so the neck of the syringomyelocele, which was composed of cord substance protruding through the centre of the meningocele, was clamped as close within the canal as feasible, ligated and excised. Stump covered by remaining portion of meningocele and muscle. Skin closed without drainage. Recovery uninterrupted.

Present condition. No recurrence of tumor, walks without assistance, no disturbance of coördination.

DEDUCTIONS

The operation for the radical cure of spina bifida should be undertaken in all cases where there is promise of relief from the unsightly deformity, even if improvement from the existing paralysis does not appear probable.

Excision of the sac can be done successfully during the early months under conditions where the pedicle is not too broad, as the operation is here accompanied by little shock.

Sacs with broad pedicles are best suited for operation when the child has attained the age of two years or older.

The older the patient, the better promise of success; for the shock is less, as is also the danger of infection from bowel discharges. Any attempt at closure of the bony cleft is useless, for the reason that it increases the danger of shock and is rarely, if ever, successful.

Recurrence of the hernia is not the rule, provided there is no blocking of the circulation of the cerebro-spinal fluid.

This field in neurological surgery has been a very much neglected one, and is deserving of more attention on the part of the surgeon than is often manifested.

To again quote Woolsley, "An unfavorable result from the operation is no worse than is to be expected without operation."

REFERENCES

WOOLSLEY, "Surgery of Spine," in Keen's "System of Surgery."

MURPHY Monograph: "Neurological Surgery."

Discussion

Dr. Angus McLean, Detroit.—I don't think I can add anything to this very interesting paper, which is one which is particularly interesting. I think we are fortunate that such a thing as this disease only happens rarely. As to prophylactic treatment, I don't think anything can be done, as it belongs to the respiration, the bronchials closing the fissure, and belongs to the same class of lesions as cleft palate, harelip, etc. I have not had a very great experience, but some of these cases are comparatively easy. In cases where you simply have a protrusion of the sac itself, or the true meninges, these are closed off with a small base. Of course this is where you have the cord like syringo-meningocele; where you have some of the divisions of the cord passing down inside of the sac, that has usually to be tucked in plaster casts with the sac and taken out with the cord, and if it arises where you have a lesion on the anterior of the canal or cord, it is not a very promising case. Where you have merely the meningocele or the sac itself, you have very favorable results. Some people say to take off the sac and tie it off at its base, but these things should be very carefully looked into. Where the sac has a long base, simply put the stitches through, closing the sac, and then folding it upon itself, and just using that as a sort of pad. I think that would be rather dangerous on account of some fibres of the cord being in there and causing paralysis afterwards. We have had one or two experiences. In one or two cases I think we had convulsions after that operation, lasting twenty-four to forty-eight hours, and I think in one child the convulsions lasted for a week, but in both these the children afterwards recovered and were all right. In one of these cases the child did not have a pronounced hydrocephalus, but had large fontanelles there and large protrusions. In this case there was considerable cerebro-spinal fluid escaped at the time. During the operation we elevated the hips, to keep the fluid into the canal and cerebrum as much as possible, but there was considerable escaped in this manner. I don't know whether that had anything to do with the convulsions; whether we got some portion of the cord in the stitch and produced the convulsions I don't know.

As the doctor has said, the death rate is always heavy. As to the time of operation, we have been in the habit of allowing these people to run along until they are ten or twelve months old. In one case we undertook a younger child, but the shock was so very great that the child died not long afterwards. I think the whole thing is rather serious.

Dr. Ralph Spencer, Grand Rapids.—I don't know that I can add anything in the way of surgical procedures for this very distressing deformity, except to say that I have had considerable experience in these cases, and I can recall readily seven or eight that have occurred in my practice within the last twenty years. All of the cases that I have seen have died before they were a year old. Only one of these was operated upon, and not then by my advice. The literature on the subject gave so little promise that I did not advise operation, but one of the cases fell into the hands of a surgeon and was operated upon, but not with success, as it terminated in death a short time after the operation. The cases that I have seen perhaps have not been good ones for operation, because shortly after birth hydrocephalus developed, and the other distressing symptoms that accompany hydrocephalus, and death followed, and, as I said, all within less than a year.

Every case that I have seen has been attended by club feet and a good deal of general paralysis of the lower extremities. I am pleased to have been present and heard this paper, as it gives hope and leads one to think that there are still possibilities for doing something in the way of operative procedure for these cases.

Dr. MacDonald (closing).—I have nothing further to offer, except that from a limited experience I have been led to regard this condition as not essentially an unfavorable one for operation.

The next Annual Meeting of the Michigan State Medical Society will be held in Detroit September 27-28, 1911

A CONSIDERATION OF PREGNANCY AND OF FIBROID TUMORS OF THE UTERUS*

W. P. MANTON, M. D.
Detroit, Mich.

Let us begin this discussion with a syllogism: The sick woman consults the physician to be cured of her disorder or to ascertain its cause; the physician examines to find out the nature of the ailment that he may intelligently prescribe; from this the conclusion appears that on the diagnosis alone rests to a large extent the future of the case.

THE IMPORTANCE OF CAUTION IN DIAGNOSIS

Diagnosis is an art as much as is music or painting, and must be as assiduously cultivated, for, as with these, no matter the experience or successes achieved, there always remains yet something to be acquired. It would seem to follow, therefore, as a logical deduction, that only by the closest scrutiny and painstaking investigation of the ordinary case can one hope to arrive at expertness, and that even so, with past experience and scientific attainment at command, one is not infrequently helpless in arriving at a knowledge of the actual normal or morbid processes at hand, and therefore in the application of a reasonable treatment.

In attempting the diagnosis of pregnancy, especially during the early part of the first trimester, the physician must ever recognize the fact that the odds are against him, and that while, as stated in the books, the condition is usually easy of detection after the middle period, the unusual too frequently intrudes itself, baffling the practitioner and proving a stumbling-block even to the expert. With increasing knowledge and experience in obstetrics this fact becomes more and more evident and appreciated.

The cardinal signs and symptoms may serve in ninety-nine instances, but in the hundredth case, and always the one of most importance, may absolutely fail to shed light, so that he who pins his faith implicitly on their showing will have disappointment as his reward.

Valuable as they may be when properly interpreted, we are all inclined to be too readily influenced by the patient's statements; it certainly does not follow because a woman says, and possibly thinks, that she is pregnant she is so, or because she denies the existence of gestation that she is not with child.

Many a woman goes to the physician with malice aforethought; others, desiring the truth, consciously or unconsciously, obscure the situation with imaginary suppositions; while pseudopsyesis is not at all uncommon. After the fourth month the diagnosis of pregnancy should present no great perplexities, but during the first few weeks, even under the most favorable circumstances, the detection of utero-gestation is extremely difficult, and sometimes impossible. No one, therefore, will prejudice his reputation by frankly stating that he does not know after a first examination, and must have further opportunities

*Read before the Wayne County Medical Society, December 19, 1910.

for finding out before committing himself to absolute expression.

What I would insist on is, always when difficulties are encountered and uncertainty results from careful investigation, *that no snap diagnosis shall be made*, but that the patient be requested to return at some future date, two, three or four weeks later, for further examination, in order that present findings may be compared with future, and confirmed or otherwise.

The well-known signs of pregnancy are not infallible, especially at an early date, for all of the subjective symptoms and most of the objective signs may be wanting in a perfectly normal case, while conversely, most of the former and many of the latter may be strikingly exaggerated in the presence of an empty uterus. Physical conditions may at the beginning also render exploration enormously difficult or impossible, and the unknowledge of preceding states may mask the real development. Very thick deposits of fat in the abdominal wall and omentum, rigidity of the recti, contraction of the patient's thighs during examination, and local disorders, as subinvolution, are some of the bars to immediate diagnosis.

TRUSTWORTHY SIGNS OF EARLY PREGNANCY

There are three uterine signs of early pregnancy, however, any two of which being present, especially in conjunction with the ordinary manifestations, may be taken as of great significance.

The first of these is the broadening and impressibility of the uterine fundus, pointed out by Landau in 1890. (Berlin klin. wochenschr. 1890, No. 33; Deutsche med. wochenschr. 1893, No. 52.)

The second is the softening of a portion of the uterine wall with bulging at this particular part, so that a longitudinal groove appears to be present between the harder portion of the uterus and the projecting boss. Attention was first called to this sign by v. Braun in 1899. (Centralblatt f. Gynakologie, 1899, p. 488; Wien. klin. wochenschr. 1899, No. 10.) The softened portion of the uterine wall is supposed to represent the point at which placental development is going on.

The third is the well-known Hegar's sign, or compressibility of the isthmus. (Deutsche med. wochenschr. 1895, No. 35.)

By means of these recognizable changes in the uterine substance, pregnancy as early as the third week has been correctly diagnosed, and from the fourth week to the end of the second month these signs may be considered as almost positive. Braun v. Fernwald's sign has been confused with other conditions; within the past two months two very competent diagnosticians have told me that they had recently mistaken it for ectopic gestation.

DIAGNOSIS OF FIBROID TUMORS OF THE UTERUS

Among the conditions most frequently mistaken for pregnancy, fibroid tumors of the uterus stand pre-eminent. While as a rule these growths may be detected without much difficulty, having usually attained to considerable size before the patient presents for examination, in occasional instances the mimicry of pregnancy is so misleading as to render diagnosis impossible until the case has been for some time under observation and repeatedly examined. Small growths, also capable of giving rise to much suffering and local and reflex disturbances, are not always readily discovered, and an insignificant tumor slightly projecting into the uterine cavity has more than once proved a Waterloo to the physician.

The prevalence of these growths and their presence as complications of pregnancy render their recognition of prime importance to the obstetrician, for, during pregnancy and labor, although generally

of little moment, they may prove a serious menace, and, under certain circumstances, involve the life of both mother and child. According to Bayle, 20% of women over thirty-five years of age are possessed of fibroids, while Klob states that they are found in 40% of women who have passed the fifth decade. In 2,649 cases of uterine neoplasms noted by Roger Williams, 883, or 33%, were of this variety.

The tumor is hard, of slow growth, is usually multiple, often irregular in form, and stands out more or less sharply from the surrounding tissues. If of soft consistence, the feel is quite different from that of the pregnant womb. In large growths inspection of the abdomen shows that the upper surface of the tumor falls abruptly, while the pregnant uterus slopes off gradually into the epigastrium. To avoid error when other measures fail in establishing a diagnosis, the patient should be examined under an anesthetic, and this is especially desirable in hyperesthetic and fat women. The X-ray may also be resorted to as early as the third month. In the fibroid the fetal heart sounds, movements and Braxton Hicks' sign will of course be absent, but care must be taken not to confound voluntary contractions of the abdominal muscles, the transmitted aortic beat, and the rhythmic contractions of a soft or cystic tumor with these.

Entering into the diagnosis must also be a consideration of the age at which fibroid tumors ordinarily appear, and their relation to fecundity and sterility, both in the primipara and the multipara. It not infrequently happens that the existence of a fibroid is entirely unknown to the patient, and that the tumor is first discovered during an examination for some other disorder. In a case referred to me by Dr. Chas. W. Hoare, of Walkerville, Ont., a pedunculated subserous fibroid was found while examining an umbilical hernia. Although after removal the tumor weighed seven pounds, the patient had carried it about, quite unconscious of its existence. Instances occasionally occur in which the differential diagnosis between fibroids and pregnancy presents great difficulty, but ordinarily careful investigation should reveal the character of each in at least 98% of cases. The two following cases, which have come under my observation during the past year, well illustrate how sloppy methods may lead to uncomfortable, if not serious mistakes.

Case 1. Referred by Dr. David Inglis. First seen April 16, 1910. The patient is thirty-five years old, has been married two years, and has never been pregnant. General health always excellent. Menstruation fairly regular, every twenty-eight to thirty days, lasting three, but since marriage prolonged to five days. Formerly there was slight pain in the left iliac region during the first day of flow. She has had a good deal of frontal and occipital headache. Appetite good; digestion excellent; bowels regular.

The latter part of June, 1909, menstruation occurred normally. In July the flow was "not quite as plentiful," and lasted only two days. At this time she consulted her physician, who, after examination, pronounced her pregnant between three and four months, and set the time for her probable confinement. The August and September periods were missed, but in October she had quite a profuse flow lasting nine days, during which she was in bed most of the time. She also had severe pain in the back and at the waist line, and on the 5th of the month experienced, as she expressed it, "a great jar," which she ascribed to fetal life. This has not been repeated, to any extent, since, but there has been some "beating." In November the flow was as usual, but was checked after two days by "strong medicine," prescribed by the doc-

tor. In December and January the flow was absent, but in March she menstruated for three or four days, and again in April the discharge was "natural." From November 3d to February 17th the patient was kept in bed to avert a possible miscarriage. On Christmas day of last year she became restless at her enforced bed-stay, and insisted on getting up and taking dinner with the family. She was persuaded by the physician, however, that she would be running great risk should she do so, that she would have but a short time longer to remain quiet, and that her reward would then be ample.

In April she was seen in consultation, by a specialist in obstetrics, who confirmed the attending physician's diagnosis, but stated that the child was dead, and recommended that the patient be taken to a hospital, and the uterus emptied to obviate possible blood-poisoning.

When seen by me there were no indications of pregnancy save the fact that the patient had passed an occasional menstrual period. A vigorous appetite and lack of exercise had resulted in the formation of an enormous layer of fat in the abdominal walls, which accounted for the progressive increase in waist measurement. This part of her condition was a Simon pure example of polysarcia abdominalis, of which I wrote as long ago as 1895 (*Medical Age*, July 25, 1895).

The uterus lay toward the right, the point where she experienced the "jar," and was considerably enlarged, the fundus extending upward to about a hand's-breadth above the pubes, while the whole mass corresponded fairly to a pregnant organ at about the fourth month. A fibroid body was found extending to the left and another posteriorly, partially filling the cul-de-sac.

The breasts were small and flat, but she thinks that they were larger at first and that there was some tingling. The nipples were retracted and small. Diagnosis: Multiple fibroids of uterus. The patient was immediately allowed to go about her ordinary affairs. She has lost much of the superfluous fat, has a good color, and is feeling well and happy. In spite of the fact that she has not menstruated (to date) since early October, she has not yet miscarried, nor has she given birth to a baby at term, for I have not yet relieved her of her incubus by hysterectomy.

CASE 2. Referred by Dr. C. W. Hitchcock, October 21, 1910. Patient aged thirty-seven, married, never pregnant. Seven years ago began to have pain in her left side, which continued intermittently for three or four years. Menstruation always regular and the flow normal, until two years ago, when she began to have more pain, and noticed that the discharge was considerably increased. Any extra exertion would also bring on a flow between the periods.

At about this time, while moving a trunk, she injured herself, and called in a physician, who after an examination, pronounced her pregnant. This diagnosis was afterwards confirmed by three other physicians who were consulted at different times. One of these men boasted an obstetric experience of eighteen hundred cases. From the unanimity of opinion, the patient was led herself to believe in the pregnancy, and gradually developed the usual symptoms, although, as far as can be learned, these were not pronounced. But so well satisfied was she with her condition that she prepared a wardrobe for the prospective infant. After nine months she had some feeble pains, but these soon ceased, and the supposed pregnancy was not further heard from. When seen, the uterus was slightly enlarged and deviated to the right. Posterior to the latter was a mass the size of a cocoanut, which appeared quite dis-

tinct from the uterus, but connected with its wall, moving freely with the latter. The whole mass, uterus and tumor, was irregular in shape. Diagnosis: Subserous fibroid.

The uterus and growth were removed by hysterectomy, on November 12, 1910, the patient making a satisfactory recovery.

PREGNANCY COMPLICATED BY FIBROIDS

The diagnosis of pregnancy complicated by fibroids may present the same difficulties which are incident to either condition alone, or, in the instance of large growths, be absolutely impossible during early gestation when the tumor completely overlays and conceals the ovum. Frequently the knowledge of the previous existence of a fibroid may shed some light on the situation, and this together with the subjective symptoms, render a decision easy. In most instances the growth is so small as to prove only an incident, but again time alone will serve to make the diagnosis clear.

The complication of pregnancy with large tumors is quite uncommon. In 13,814 cases, Meheut found but 85 instances or 0.62% of this kind.

The size, situation and rapidity of growth in the tumor is of much importance. Subserous growths of the fundus and upper body and small tumors of the latter are generally of little import. If situated posteriorly, in the broad ligaments or in the cervix, and especially if adherent, they may prove of serious consequence. It must be remembered, however, that even when developed in these locations, the influences of pregnancy in drawing out and softening the growth, and thus changing it in form and consistence, may render it perfectly harmless during labor. Again, many tumors arising in the lower uterine segment and cervix, and which at the beginning of gravidity appear to offer an insurmountable obstacle to the escape of the fetal head, may even as late as the beginning termination of labor rise up into the abdominal cavity or be thus displaced by the accoucheur. Subserous or polypoid fibroids of the cervical canal may be pushed downward by the advancing head and thus open up a free passage, while growths situated higher up in the cavity may be so pressed upon and drawn out as to be extruded as foreign bodies following normal delivery. I am indebted to Dr. Charles T. Southworth, of Monroe, for an interesting specimen of the latter condition. The patient, a twenty-two years old I-para, had had diphtheria during late October and November, 1910, followed by a general infection. On December 17th she was delivered by the doctor after a normal labor, which was attended by very slight blood loss. Eight hours later pains again set in, greatly exceeding those of the labor just completed, and after eight hours a fibroid polypus the size of a goose egg was discharged. The hemorrhage during this subsequent event was inconsiderable.

The dangers from fibroids complicating pregnancy and labor, aside from the blocking of the pelvis, may be briefly set down as including: Abortion (in 30% according to Wittich), with serious or even fatal hemorrhage; feeble labor pains; placenta previa (Winckel notes a percentage of 3.4%); malpositions of the child (Olshausen found 19% of transverse presentations in this complication as against 0.6% under other conditions); mechanical difficulties from pressure on the diaphragm with attending heart complications and limited breathing space; and pressure on the abdominal and pelvic viscera, nerves, and blood vessels, giving rise to pain, hydronephrosis, edema, etc.; and finally sloughing of the fibroid with systemic septic infection.

MANAGEMENT OF COMPLICATED CASES

As to the management of these cases:— Readers of current obstetrical literature cannot but be impressed by the fact that

men of largest experience adopt an expectant attitude, and that only those obsessed by surgery rush to operative measures. In this connection the statistics of Pinard are exceedingly pertinent. In about 14,000 cases this observer met with only eighty-four complicating fibroids. Of this number, in sixty-six cases pregnancy reached a normal or nearly normal termination. In thirteen premature delivery occurred, and there were five abortions. In only four instances was intervention found necessary during pregnancy, and labor occurred spontaneously in fifty-four, while in only twenty-four was assistance required. Of the total number, sixty-five children were dismissed living.

In a personal experience now numbering several thousand cases, I can recall but three instances in which surgical intervention was resorted to. The first of these was in the practice of the elder Mulheron; a breech presentation was obstructed by a fibroid as large as an orange situated in the middle third of the cervix. This enucleated and removed, delivery was effected with difficulty on account of the excessive size of the dead child.

The second case was referred to me by Dr. Mary G. Haskins, and the complete involvement of the uterus in the fibroid growths made a hysterectomy necessary at the fifth month of pregnancy.

The third case was one of sessile fibroid referred by Dr. Wm. F. Acker, Monroe, in which successive abortions, apparently due to the growth, rendered its removal seemingly desirable.

If operative measures become imperative as a life-saving measure, these should be undertaken, when possible, near the termination of pregnancy. Myomectomy during the early months presents no particular difficulty, but carries with it the double danger of infection and abortion. Total hysterectomy is always indicated when the woman is already infected, and may be accompanied or not by Cesarean section.

32 Adams Ave. West.

SURGICAL SUGGESTIONS

Rupture of the urethra occurring between the posterior layer of the triangular ligament and the scrotum is one of the most serious accidents in surgery, and demands immediate operation.—*American Journal of Surgery.*

Overdistention of the bladder due to neurasthenia, hysteria, shock or prolonged voluntary retention may be overcome by administering a rectal enema consisting of a pint of warm water and an ounce of glycerin.—*American Journal of Surgery.*

In acute posterior gonorrhea with frequent urination and all portions of the urine cloudy, if these symptoms do not respond to irrigations of the bladder, gently massage the prostate—the expression of pus will indicate repeated massage as the treatment to be pursued.—*American Journal of Surgery.*

The passage of a sound or catheter into a tortuous or narrowed urethra is facilitated by injecting the urethra full of sterilized olive oil.—*American Journal of Surgery.*

A small swelling in the parotid region may be an inflamed lymph-node. A single focus of tuberculous lymphadenitis is sometimes to be found here.—*American Journal of Surgery.*

Prostatic massage for gonorrheal prostatitis is not limited in its usefulness to chronic cases. In *some* cases of fairly acute gonorrheal prostatitis the symptoms do not abate until daily expression of the pus by massage is undertaken, and then they subside very quickly. Such a treatment must be undertaken only upon proper indications, however; otherwise employed in acute cases it will cause mischief.—*American Journal of Surgery.*

The Journal of the Michigan State Medical Society

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Wilfrid Haughey, A. M., M. D., Editor, 24 West Main Street, Battle Creek, Michigan. The Society does not hold itself responsible for opinions expressed in original papers, discussions or communications.

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FEBRUARY

EDITORIAL

Your Committee recommends, that on May first of each year the Journal of the State Society be discontinued to all subscribers and members in arrears and that such members be reported to the Secretary of the American Medical Association as "dropped for non-payment of dues."—*Report of Business Committee unanimously adopted by House of Delegates.*

MEDICAL DEFENSE

THE report made by the Chairman of the Medico-Legal Committee to the Council at its January meeting was a remarkably good one, showing that the Committee is doing its work in a creditable and satisfactory manner, and at a very small expense to the Society.

"Ten cases of malpractice have been reported to the Chairman during 1910. Two of these have been settled without trial, two were threatened prior to 1910 (one of which has been successfully defended by the doctor, and the other not heard from further), five are purely bluff cases, and only one of the ten is expected to go to trial."

The doctor has in no instance been required to pay money in settlement.

Trouble is certain to arise in cases of delinquents. Doctors by their carelessness are depriving themselves of protection. It is unfair to give the delinquent the same protection given to the man who pays promptly, hence the provision that suits threatened while a member is in arrears will not be defended. During the year just past two men were threatened with suit while in arrears beyond the limit. Fortunately for them the suits were of the bluff variety, but they came uncomfortably near being deprived of protection.

MICHIGAN STATE BOARD OF REGISTRATION IN MEDICINE

THE Legislative Committee presented to the Council at the January meeting the proposed plan for the support of the State Board of Registration in Medicine as outlined at the Bay City meeting of the State Society. This measure received the endorsement of the Council, and will be presented at Lansing.

Conditions at Lansing have changed with the new administration, and if we wish to carry this plan through, it will be necessary for every member of the Society to get out and do his utmost. He must write to his representative and senator, and must lose no opportunity to interview them. With our present primary system legislators realize that they must do the things their constituents want, but if the constituents do not state their wants they must not expect to get them.

The argument has been advanced that there is no precedent for state support of the Board, as we are asking. To determine how the various medical examining Boards are supported, the State Secretary addressed a letter to the secretary of the medical examining Board of every state and territory in the Union, and received forty-three replies. From these replies we find that the Boards in the following states are supported by fees, or fees and fines received in the carrying out of the provisions of the law, that is, the examination and licensing fees, and fines assessed:

Alabama,* Arizona, Arkansas, California, Colorado, Connecticut,* Florida,* Georgia,* Iowa, Louisiana, Maine, Maryland, Mich-

igan, Minnesota, Missouri, Montana, New Hampshire,* New Jersey, New York, North Dakota, Ohio, Oklahoma, Oregon, Tennessee, Texas,* Vermont, Virginia, Washington, and Wyoming.

No reply was received from the secretaries of the medical examining Boards of the following states:

District of Columbia, Indian Territory, Kentucky, New Mexico, North Carolina, Utah, West Virginia.

The other Boards are supported as follows, the quotation in each instance being taken from the letter of the secretary:

Delaware.—"If the fees are not sufficient the state will supplement them."

†Illinois.—"The work of both 'bodies' (Board of Health and Examining Board) is performed by clerks who may be paid out of the state appropriation."

Indiana.—"Our stationery and the expense of our report to the governor is taken care of by the State Printing Board."

Kansas.—"By the state."

Massachusetts.—"This Board is supported by a state appropriation made by the legislature annually."

†Mississippi.—"Supported partly by annual appropriation, (three dollars a day and actual traveling expenses), and fees, which are divided equally among the thirteen members."

†Nebraska.—"Legislature appropriated $8,200 two years ago for this department."

Nevada.—"By Legislative enactment, when our treasury is exhausted the state pays the bills."

Pennsylvania.—"The Medical Council which does the detail work in examining credentials of preliminary education, of medical education, and of good moral character, had an appropriation from the legislature for the past two years amounting to two thousand dollars."

†Rhode Island.—"The cost of these meetings, that is the traveling expenses, is met by the State Board of Health, as a health Board. The fees are placed in a fund to be used in prosecution of such cases as come to the attention of the Board, and in obtaining evidence. The money remaining is apportioned to each medical member of the Board."

South Carolina.—"This Board is supported by the state. Each member receives four dollars per diem and mileage."

South Dakota.—(Quoted from the law.) "There is hereby established a fund to be known as the Medical Board Fund, and the sum of four thousand dollars is appropriated out of the moneys in the state treasury . . . . to meet the expenses of carrying out the provisions of this act for two years."

LIFE INSURANCE EXAMINATIONS

WHEREAS, Many life insurance companies have notified their medical examiners of a reduction of the examining fee from five dollars to three dollars, and

Whereas, We, as physicians, realizing the responsibility incident to proper examination of the individual, believe such reduction to be unjust; therefore be it

Resolved, That the House of Delegates in session assembled do hereby declare such reduction to be unjust, and respectfully request that no physician legally authorized to practice medicine in Michigan, accept such reduction of fee.

Resolved, That it is the sense of the House of Delegates that hereafter in such examination for life insurance the minimum fee shall be $5.

Resolved, That the several component societies forming this State Society be requested to adopt these resolutions.

Resolved, That a copy of these resolutions be mailed to the several life insurance companies that have reduced the fee from $5 to $3.

The above resolutions were adopted unanimously by the Michigan State Medical Society in General Session, at the Jackson meeting, and were published in the August, 1906, number of the JOURNAL. Several, in fact, most of our County Societies have

*Those states marked with a star (*) divide up the money left over after the expenses are paid.

†In the states marked with a dagger (†) the State Board of Health and the Examining Board are combined.

endorsed these resolutions, and one county in particular has been strictly enforcing them,—so strictly that when a certain insurance company sent an agent into the county recently, so we are informed, the agent found it necessary to instruct the doctors to send in their bills for the regular $5 fee. The home office of the company refused to pay the extra $2, whereupon the Councilor of the District wrote to them, receiving in reply the letter on page 94

Life insurance examinations are more than a temporary service where the service and the responsibility are soon terminated. The responsibility in this work extends through the life of the policy. These records are kept on file, and may be questioned in the courts at any time, even years after the examination is made. The doctor must, therefore, make these examinations with extreme care, looking far into the future. Nothing of this is required in the ordinary services rendered by physicians, thus nullifying the argument of the letter.

There is no question of the right of the medical men to fix the amount that they shall receive for their services. There is no insurance company in existence that would for a moment consent to insure a doctor, or any one, and let the insured fix the amount he was to pay for his insurance. We believe that the doctors in the county interested in this matter at the present time will win out if they stick together. No insurance company can do business for long without a careful and painstaking examination of its risks.

REPRINTS

THE Council at its annual meeting, January 11, decided to furnish the authors of original articles appearing in the Journal with one hundred reprints free of charge, provided they are requested when the galley proofs are returned to the Editor. Those wishing more than a hundred, or covers, will be expected to pay cost for the extras, check accompanying the order, and the reprints will be delivered free of charge.

The arrangement in the past has been unsatisfactory because of sending the reprints collect, making a large express fee, and a good-sized fee for transferring the money. The new plan will undoubtedly be more convenient to all, and less expensive, but will cost the Society between two hundred fifty and three hundred dollars a year. It will be readily understood, therefore, that when extra reprints are ordered, the check to pay for them must accompany the order, thus lessening the bookkeeping, and obviating the necessity of the Society keeping an open account with dozens of its members.

When a man orders reprints, he has taken stock of his cash on hand, and feels he can afford the luxury, but when they come, about three weeks later, he may be short when the expressman arrives. We hope that all will enter into the spirit of the new order, and help to make it a success.

BOARDS OF SUPERVISORS

It is reported that the Boards of Supervisors of Michigan are working for the repeal of the provision of the State Constitution allowing appeal to the Circuit Court in matters of disallowance of claims by Boards of Supervisors. Until a year ago we had no appeal. Physicians are vitally interested and will undoubtedly oppose this measure.

IN MEMORIAM

Dr. George W. More, of Ionia, a graduate of the University of Michigan Department of Medicine and Surgery, 1906, died in October, at his home, of typhoid fever. The doctor was a young man of about twenty-eight years, and leaves, besides his immediate family, an affianced bride.

MINUTES OF THE MEETING OF THE COUNCIL, MICHIGAN STATE MEDICAL SOCIETY

January 11, 1911.

The annual January meeting of the Council of the Michigan State Medical Society was called to order by Vice-Chairman Bulson in the Post Tavern, Battle Creek, at 10.30 A. M., January 11, 1911.

Present: Councilors Bulson, Biddle, Haughey, Rockwell, Spencer, Kay, Seeley, Ennis, and President Burr, Secretary Haughey and Treasurer Inch of the State Society. Owing to the delayed arrival of the train, Chairman Dodge and Councilor McMullen were a few minutes late, but on arrival Councilor Dodge was given the Chair.

The minutes of the previous session were read by the Secretary, and on motion of Councilor Bulson were accepted and adopted.

The Report of the State Secretary and Editor, presented by Secretary Wilfrid Haughey, was received, and so much of it as related to Finance was referred to the Finance Committee, so much of it as related to publication to the Publication Committee, and so much as related to County Societies to the Committee on County Societies.

Councilor Bulson was requested by the Chair to act on the Finance Committee.

The Report of Treasurer Geo. F. Inch was received and referred to the Finance Committee.

The Committee on Legislation and Public Policy by Dr. Walter H. Sawyer, Chairman, presented draft of bill to secure State support for the Board of Registration in Medicine.

The matter was discussed at length, and it was moved by Councilor Spencer that the Report of the Legislative Committee be adopted and the bill as presented be approved by the Council.

Supported by Councilor Rockwell and carried.

The Report of the Medico-Legal Committee was read by the Chairman, Dr. F. B. Tibbals. Report was received and referred to the Committee on Finance.

RECESS WAS TAKEN FOR LUNCH

After recess the Council was called to order by Chairman Dodge.

Present: Councilors Dodge, Biddle, Bulson, Haughey, Rockwell, Spencer, Kay, Seeley, McMullen, Ennis, President Burr, Secretary-Editor Wilfrid Haughey, Treasurer Inch.

Report of Finance Committee, Dr. B. H. McMullen, Chairman.

Your Committee report that they have examined the books and vouchers of the Secretary and Treasurer and find them correct.

Your Committee recommend that all industrial bonds now held by the State Society be disposed of as soon as such disposition can be made at par, or without loss to the Society. Your Committee further recommend that future purchases of bonds be of good municipal bonds of the variety which cover the entire taxation of the municipality, and that all surplus money over and above a good working capital be so invested. All bonds to be approved by the Chairman of the Council.

All of which is respectfully submitted.

Councilor Biddle moved that the report of the Committee be accepted and the recommendations adopted. Supported by Councilor Kay and carried.

Report of Publication Committee, Dr. A. P. Biddle, Chairman:

"Your Committee believe that it would be for the best interests of all to state to every writer of a paper that he will be entitled, if he so desires, to one hundred reprints of his paper free, and as many more as he will care to pay for at a rate sufficient to cover cost of printing and express charges, and that the express charges on the same be prepaid by the State Society.

"We believe it will be better for the Society as a whole to continue the reporting of discussions, even at the expense quoted by the Secretary-Editor.

"All of which is respectfully submitted."

Councilor Ennis moved that the report be accepted and adopted. Supported by Councilor Haughey and carried.

Report of Committee on County Societies, Dr. W. H. Haughey, Chairman:

"We recommend that in case a County Society is falling behind and losing interest, the Councilor of the District to which the County Society belongs

may be privileged, if in his judgment it seem wise to do so, to invite the Secretary of the State Society and some member prominent in the profession to make a visit with him to that Society, with the hope of rejuvenating it, and that their expenses be paid by the State Society.

"We recommend that the visits of the Secretary-Editor around the State to the different County Society and District Meetings be continued. We think good has come from these visits, and we urge that during the coming year new territory be covered when possible.

"All of which is respectfully submitted."

Moved by Councilor McMullen that the report be accepted and the recommendations adopted. Supported by Councilor Biddle and carried.

The Secretary-Editor presented a communication from the Association of American Medical Colleges requesting the President of the State Society to appoint a delegate to their Association Meeting in February.

Moved by Councilor Biddle that the President of the State Society be given authority to appoint such a delegate. Supported by Councilor Rockwell and carried.

President Burr announced the appointment of Dr. W. T. Dodge, Chairman of the Council, as a delegate to the Convention of the Association of American Medical Colleges, and requested the State Secretary to make out the proper credentials and present them to Dr. Dodge.

A letter was read from Councilor Baker stating his inability to be present at this meeting and enclosing a suggested amendment to the By-Laws regarding the nomination and appointment of Honorary Members to the State Society.

A letter was also read from Dr. H. B. Landon, Bay City, enclosing $3.50 for his dues for 1910 and 1911, also his resignation as a member of the State Society, and regretting the misunderstanding which led to his being refused Honorary Membership in 1910.

Moved by Councilor Haughey that we accept the dues forwarded by Dr. Landon for 1910 and 1911, that the Secretary be instructed to make the entries on the books of the State Society, that the Doctor be urged to withdraw this resignation, and that his name be recommended to the House of Delegates for Honorary Membership.

Supported by Councilor Spencer and carried.

Moved by Councilor Haughey that the State Secretary be instructed to correspond with the other two gentlemen whose Honorary Membership was refused at the meeting in Bay City, and if he can get their co-operation in paying up back dues as Dr. Landon has done, that we also recommend them to Honorary Membership.

Supported by Councilor Biddle and carried.

Moved by Councilor Bulson that Dr. Wilfrid Haughey be re-elected Secretary-Editor for the ensuing year. Supported by Councilor Seeley and carried.

Moved by Councilor Biddle that Dr. Geo. F. Inch be re-elected Treasurer for the ensuing year. Supported by Councilor Haughey and carried.

Moved by Councilor Biddle that Dr. F. B. Tibbals be re-elected Chairman of the Medico-Legal Committee for the ensuing year. Supported by Councilor Rockwell and carried.

Moved by Councilor Biddle that Dr. J. Flinterman, of Detroit, be re-elected member of the Medico-Legal Committee for a term of five years. Supported by Councilor Rockwell and carried.

Moved by Councilor Biddle that the President of the State Society be furnished with such stationery as he may approve. Supported by Councilor Haughey and carried.

A communication was read from the Association of State Secretaries and editors, requesting that the expenses of Secretaries of State Societies to the Annual Meeting of that Association be paid by the State Societies.

Moved by Councilor Biddle that this matter be laid on the table for one year. Supported and carried.

Moved by Councilor McMullen that the bond of the Treasurer be fixed at $4,000. Supported by Councilor Biddle and carried.

Moved by Councilor Biddle that the State Secretary be authorized to purchase a typewriter. Supported and carried.

Councilor Ennis extended an invitation to the entire Council to attend the meeting of the Delta County Medical Society in August.

Moved by Councilor Bulson that hereafter, at the meetings of the State Society, the first meeting of the Council occur the evening before the first day's session and the first meeting of the House of Delegates the morning of the first day's session.

Supported by Councilor McMullen and carried.

Moved by Councilor Rockwell that the next Annual Meeting of the Council be held in Battle Creek. Supported by several and carried.

Wednesday and Thursday, September 27 and 28, 1911, were fixed by the Council as the time for meeting of the State Society.

On motion the Council adjourned to meet in Detroit in the evening of September 26, 1911.

W. H. HAUGHEY, M. D., *Secretary of Council.*

COUNTY SOCIETY NEWS

NORTHERN TRI-STATE MEDICAL ASSOCIATION

The thirty-seventh annual meeting occurred January 10, 1911, in Kalamazoo, as the guests of the Kalamazoo Academy of Medicine. There were about two hundred seventy-five in attendance and a rousing good time is reported. The program follows:

Ehrlich's Hyperideal, Dr. R. C. Shranklin, South Bend.

The Influence of Glandular Pharyngeal Tonsil (Waldeyer's Ring) in the Causation of Rheumatism and Endocarditis, Dr. B. R. Shurley, Detroit.

Prostatectomy by the Method of Goldsmidt, Dr. Charles M. Harpster, Toledo.

The Diagnosis of Intestinal Perforation in Typhoid Fever, Dr. Sidney D. Foster, Toledo.

Some Clinical Aspects of Achlorhydria, Dr. Albion W. Hewlett, Ann Arbor.

The Physician as a Business Man, Dr. W. F. Shumaker, Butler.

Some Clinical Aspects of Acute Infantile Paralysis, Dr. Joseph A. Capps, Chicago.

Goiter, Dr. Charles H. Mayo. (Dr. Mayo being ill, Prof. L. B. Wilson substituted for him.)

The Family Tendency to Disease, Dr. Archibald Church, Chicago.

BERRIEN

The Berrien County Medical Society chose to hold its annual meeting in December this year instead of in January, 1911. Accordingly on the 15th the meeting was held in Benton Harbor, and the following officers elected for the ensuing year: *President*, Dr. H. C. Hill, Benton Harbor; *First Vice-President*, Dr. L. A. King, Baroda; *Second Vice-President*, Dr. C. M. Merritt, St. Joseph; *Secretary*, Dr. E. J. Witt, St. Joseph; *Treasurer*, Dr. N. A. Herring, Benton Harbor; *Member Medico-Legal Committee*, Dr. W. L. Wilson, St. Joseph; *Delegate*, C. N. Sowers, Benton Harbor, Alternate, J. D. Greenamyer, Niles.

Dr. Bayard Holmes, of Chicago, gave a most interesting lecture on "How the Technique and Duration of Mastoidectomy, Cholecystostomy, Appendectomy, and Cystostomy affect the Indications for Immediate Operation." The paper and discussion consumed most of the afternoon, and was most interesting and instructive to all. The paper will be published in an early number of the JOURNAL.

Dr. Holmes was by unanimous vote made an honorary member of the Society.

After the meeting proper, an informal dinner was held at Hotel Benton, at which a large number attended. After the dinner Dr. E. J. Witt gave a talk on "What I Saw and Learned During a Visit to Mayo Brothers Clinic."

The meeting concluded at 9.30 P. M., and was one of the most interesting in the history of the Society.

C. N. SOWERS, *Secretary.*

GENESEE

The Genesee County Medical Society held a special meeting, a banquet, on December 20, in honor of Dr. C. B. Burr, a member of the Genesee County Medical Society, and President of the Michigan State Medical Society. The banquet was an elaborate affair, attended by over forty members of the County Society and several guests. Toasts were responded to by Drs. Homer E. Clark, H. E. Randall, Noah Bates, J. G. R. Manwaring, J. G. Wilson, and A. S. Wheelock, of the Genesee County Medical Society, Drs. C. W. Hitchcock and H. W. Longyear, of Detroit, Dr. E. A. Christian, of Pontiac, and Dr. Wilfrid Haughey, of Battle Creek. Letters of congratulation were read from many of Dr. Burr's former associates, and friends who were prevented from attending on account of distance.

C. P. CLARK, *Secretary.*

GRAND TRAVERSE

Regular meeting of Grand Traverse-Leelanaw County Medical Society was held January 3, 1911, in Dr. Thurtell's office. Twelve members were present, also Dr. Torrence, of Hamilton, Ohio. Minutes of last meeting were read and approved.

Dr. J. M. Wilhelm was elected as delegate to the State Convention. Dr. R. E. Wells was elected alternate. Dr. J. B. Martin was elected as the County Member of the Medico-Legal

Committee. A committee was appointed to arrange for the district meeting in April.

Dr. J. M. Wilhelm read a paper on "Medication and Feeding in Typhoid Fever."

Dr. O. Chase read a paper on the "Pathology of Typhoid Fever."

Dr. Holliday read a paper on the "Complications of Typhoid Fever."

All the papers were followed by a general discussion. Dr. Torrence spoke of the methods used in the hospital at Hamilton, Ohio, and discussed some very interesting cases which he had seen. One case he mentioned was one of typhoid fever in which three relapses had occurred, the temperature curve in all three being just the same and the rose spots appearing in the relapses.

The Society adjourned to meet next month in Dr. Minor's office.

R. E. WELLS, *Secretary.*

HOUGHTON

The annual meeting of the Houghton County Medical Society was held at the Douglas House, Houghton, January 2, 1911. On account of a very severe storm, the attendance was small, but after some discussion of the financial condition of the State Board of Registration in Medicine, the annual election of officers was taken up.

Dr. A. F. Fischer, of Hubbell, was elected President, and Dr. W. H. Dodge, of Hancock, Vice-President. The election of a Secretary-treasurer aroused some discussion, owing to the fact that the retiring President, Dr. John MacRae, and some others, were strongly in favor of a second term for the Secretary. Dr. L. A. Farnham was finally elected for a second term. Dr. H. M. Joy, of Calumet, was elected to the Board of Censors, Dr. John MacRae was elected delegate to the State Society, and Dr. W. H. Matchette, of Hancock, alternate.

The report of the Secretary-treasurer for the year was read, showing the membership to be sixty-one, the same as last year, the addition of seven new members being balanced by the removal or transfer of an equal number. The financial report showed a balance in the treasury of $159.55.

After adjournment a luncheon was served.

L. A. FARNHAM, *Secretary.*

HURON

The Huron County Medical Society held its regular quarterly meeting at Bad Axe, Monday, January 16. Dr. W. J. Herrington read a paper on "Comments on Last Year's Surgical Work in the Hubbard Memorial Hospital." Dr. F. W. Sellars, of Pinnebog, gave an extemporaneous talk on "Some Peculiar Surgical Cases." Dr. C. B. Morden, of Bad Axe, related a few incidents from his recent visit to Edinburgh and London. He stated that as far as he could see, America is taking the lead in surgery, and that in internal medicine this country is on an equal plane with Europe; the British physicians and surgeons, however, have their anatomy at the ends of their fingers, figuratively speaking.

D. CONROY, *Secretary.*

KENT

At the annual meeting of the Kent County Medical Society the following officers were elected for the coming year: Dr. D. Emmett Welsh, *President*; Dr. J. D. Brook, *Vice-President*; Dr. A. Verne Wenger, *Treasurer*; Dr. F. C. Warnshuis, *Secretary.*

The delegates to the State Society are: Dr. W. J. DuBois, Dr. J. D. Brook, Dr. J. M. DeKraker.

The representative of the Medical Defense League, Dr. G. L. McBride.

F. C. WARNSHUIS, *Secretary.*

LAPEER

The Lapeer County Medical Society met at the Cleveland House, Imlay City, January 12, seven members of the Society being present. Sickness and the conditions of the roads account for the small attendance. Drs. C. B. Burr and H. E. Randall, of Flint, and G. W. Ross, of Capac, were present as guests of the Society.

At the business meeting it was decided to hold the meetings on the second Tuesday of January, April, July and October, instead of the second Wednesday.

Dr. C. B. Burr read a paper entitled, "Some Hints as to Diagnosis in Mental Cases." This paper was a masterly rendition of the various symptoms and conditions to be found in incipient cases of insanity. Dr. John S. Caulkins was to have given a paper on "Who First Discovered the Circulation of the Blood?" and Dr. J. O. Thomas one on "Eclampsia," but both were unable to be present.

After spending a pleasant afternoon together, the Society adjourned to meet Tuesday, April 11, at North Branch.

C. A. WISNER, *Secretary.*

OTTAWA

The annual banquet of the Ottawa County Medical Society was held at the Hotel Holland,

December 13th, at 7.30 P. M. A large number were present. Dr. C. P. Brown, of Spring Lake, acted as toastmaster, and the following responded to toasts: Dr. R. H. Spencer, Grand Rapids, "Theories of Heredity;" Dr. N. H. Kassabian, Coopersville, "Just a Word," and "Now and Then;" Dr. T. G. Huizenga, Zeeland, "Some Impressions of Europe;" Dr. R. J. Walker, Saugatuck, "Our Children."

On the afternoon of December 20th the members of the Society were the guests of Dr. E. Hofma, of Grand Haven. After an inspection of the new bank, of which Dr. Hofma is President, the Society was entertained at his home, where Mrs. Hofma served refreshments. The balance of the time was spent in listening to Dr. Brown's description of his "Travels in the Orient."

The January meeting was not called, because of lack of program, but the February meeting will be held the second Tuesday of the month, at the usual time and place.

GEO. H. THOMAS, *Secretary.*

SANILAC

The annual meeting of the Sanilac County Medical Society was held at the court-house Monday, December 19, and on account of the stormy weather a small attendance was recorded. The only business transacted was the election of officers for the ensuing year, as follows: *President*, G. B. Tweedie, Sandusky; *Vice-President*, J. E. Campbell, Brown City; *Secretary-treasurer*, J. W. Scott, Sandusky; *Delegate to State Convention at Detroit*, C. G. Robertson, Sandusky, Alternate, G. R. Smith, Carsonville.

J. W. SCOTT, *Secretary.*

ST. CLAIR

The annual meeting of the St. Clair County Medical Society was held December 8, 1910, at the Hotel Herrington. The following officers were elected: *President*, Dr. T. F. Heavenrich, Port Huron; *Vice-President*, Dr. G. H. Morris, Port Huron; *Secretary and Treasurer*, Dr. R. K. Wheeler, Port Huron; *Delegate*, Dr. C. C. Clancy, Port Huron, Alternate, Dr. T. E. DeGurse, Marine City.

R. K. WHEELER, *Secretary.*

SHIAWASSEE

The annual meeting of Shiawassee County Medical Society was held Tuesday, December 6. At this meeting the following officers were elected for the ensuing year: *President*, A. L. Bailey, Chesaning; *Vice-President*, Geo B. Sackrider, Henderson; *Secretary* and *Treasurer*, H. A. Hume, Owosso; *Delegate to State Society Meeting*, N. T. Parker, Corunna, Alternate, Dr. Eldred, Chesaning.

H. A. HUME, *Secretary.*

WAYNE

At the December 12th meeting Dr. Max Ballin read a paper on the prevention and treatment of post-operative hernia.

He first spoke of the prevention of hernia by proper technique at the time of operation. He said: Skin should always be divided with the knife. Scissors are all right for fascia and peritoneum, but should not be used on skin. Muscle should be split with a blunt instrument, so as not to injure blood vessels or nerves. The wound should be protected from contact with intestines, especially if an inflammatory condition exists. (Avoid wall abscess.)

In closing the abdominal wall the layer suture should be the rule.

For the fascia, a running stitch of chromicized catgut should be used, and the edges of the fascia should overlap. To relieve pressure on the layer sutures in large incisions, use two or three deep silkworm gut sutures. These should penetrate the fascia and muscle but not the peritoneum. They are tied over small suture pillows and left in place from twelve to fourteen days.

An important factor in bringing about good healing and in preventing post-operative hernia is the use of the proper amount of care in making the abdominal incision. Three points should be remembered. First, muscles should be injured as little as possible; second, the nerve supply to muscles should not be disturbed; and, third, blood vessels should not be injured. Besides this it is well to remember that incisions through fascia and muscle seem to give better scars than incisions through fascia alone; for instance, through the linea alba or linea semilunaris. Therefore, incisions that are made in the median line, or over the outer border of the rectus muscle, should be so made that they will open the sheath of the rectus muscle rather than pierce these white fibrous structures alone.

Pfannensteihls incision gives excellent results as to scar, but should not be used for suppurative cases or for very large incisions.

The methods so far mentioned apply to aseptic cases. However, post-operative hernia is more frequent in suppurative cases, i. e. cases where

drainage is necessary, and for these special rules have to be laid down. A good many of these cases could be prevented if we would adhere to the golden rule, to operate early for appendicitis, i. e. before pus is present or in the intervals of attacks. Early operation guarantees a good scar and a strong wall. If drainage is required, I have found it a very good rule not to drain through the main incision, but through a special stab wound. For instance, in pus tubes we operate through a longitudinal median incision; the pus sacs are removed, great care being taken not to infect the wound wall by spilling the pus. Same is protected by pads. Then, if drainage is deemed necessary, a hand is introduced through the incision toward the internal inguinal ring, pushing the abdominal wall outward. Under the guidance of the hand the stab incision is made through skin and fascia. Strong forceps are next pushed through the peritoneum. These grasp whatever is decided on for drainage. After one end of the drainage material is pulled up through the stab wound, the other end through the median incision can be arranged and placed wherever it is most needed. In our early cases we used two stab wounds for drainage, but one seems sufficient. It is astonishing how with this method a big median incision will usually heal by first intention. The stab wound heals in about three weeks. Of ten cases of post-operative hernia seen in the last two years, nine were caused by draining through the median incision. The reason for this is clear. If we drain through the lower angle of the main incision, the constant discharge is bound to infect the whole wound. Whereas by draining through a special stab wound, the main incision is kept clean. We dress these wounds so that the dressing of the median incision is not changed for a week, while dressings on the stab wound are changed daily.

Stab wound drainage is preferable to drainage through the posterior cul-de-sac.

In the cure of post-operative hernias we use mainly a transverse incision. Surrounding the protrusion, all adipose tissue is removed, so that the tough fascia is denuded all around the hernia for at least two inches. The hernia sac is opened and cut off. If omental or intestinal adhesions are present, they are freed and the peritoneum is then closed. The fascia is split around the ring so that we get an elliptical transverse wound. If the recti muscles present themselves and can be easily drawn together, they are united with a few catgut sutures. If the gap in the muscle is too large, it is left alone. The elliptical fascia opening is now drawn together. The edges are made to overlap, and held in that position by mattress sutures. Deep silkworm gut stitches unite the skin.

On Monday, December 19th, the last meeting for the year 1910 was held. The paper of the evening, on "Pregnancy and Fibroid Tumors of the Uterus," was read by W. P. Manton (see page 78).

Dr. B. D. Harison referred to the sluggish and reluctant manner in which the prosecuting attorney attacks persons violating the "Medical Act." He said, that it is always with the greatest difficulty that the "Board" is able to obtain prosecution against offenders of this act. He asked the Society to take some action, and if possible compel the prosecuting attorney to act more promptly in these cases.

On motion of Dr. Freund the matter was referred to the Board of Directors for action.

A vote of thanks was given to Harold Wilson for his gift of seven bound volumes to the library.

MEETING MONDAY, JANUARY 9TH

The first paper of the evening was on "The Surgical Aspect of Goiter with Special Reference to Pressure Symptoms," by Alexander W. Blain.

Dr. Blain called attention to the general interest taken by the physiologist, the internist, and the surgeon in the thyroid gland. Our knowledge of the function of the thyroid and parathyroids is as yet very limited. Their importance in maintaining metabolism has, however, been proved conclusively. The capsule of the gland is so formed that it binds the thyroid with the trachea and oesophagus.

The classification of diseases of the thyroid is difficult. From the standpoint of treatment the author made four divisions: (1) Those requiring no treatment; (2) the cases which respond to medical treatment; (3) the cases in which medical treatment has failed and surgical measures have to be instituted; (4) the purely surgical cases. The author's paper dealt mainly with the fourth division (the cases of Graves coming in the 2d and 3d).

The author considers Theodore Kocher, of Berne, Switzerland, the father of modern thyroid surgery. Charles Mayo has done most to advance thyroid surgery in this country.

Before Kocher's work, goiter patients were only operated on as a last resort. The primary mortality was high, and the end results often

disastrous. Thyroid surgery is now safe and the results most gratifying.

The location of enlargements of, or tumors within, the gland alters the symptoms. Goiters develop in the line of least resistance. The rings of the trachea are often destroyed by continued pressure.

"Goiter-heart" (aside from hyperthyroidism) is produced by continued pressure on the blood vessels, causing dilatation and cardiac degeneration and obstruction to the trachea. The large nerve trunks at times become paretic from pressure.

The technique of operation was discussed. Ether is the preferred anesthetic. Cases diagnosed as carcinoma are not amenable to treatment. All tumors should be removed as a prophylactic for carcinoma, which generally develops in the struma.

The second paper of the evening on Hyperthyroidism, with especial reference to Diagnosis and Surgical Treatment, was read by C. D. Brooks

R. C. ANDRIES, *Correspondent.*

NEWS

Dr. George C. Chene, Gas Office Building, Detroit, announces that after January 1, 1911, he will limit his practice to the Diagnostic and Therapeutic use of the X-ray exclusively.

The following Recess appointments of the Governor have been confirmed by the Senate at Lansing: Dr. Arthur W. Scidmore, Three Rivers, to the Nurses Board; Dr. W. R. Hinsdale, Ann Arbor, to the State Sanatorium Board; Dr. Bret Nottingham, Lansing, to the State Board of Registration in Medicine; Mr. Geo. S. Harrington, Kalamazoo, undertaker, to the State Board of Health.

The above are appointments of Governor Warner.

Dr. J. B. Kennedy, of Detroit, was named by Governor Osborn in place of Dr. Geo. E. Potter, for the Detroit Board of Health, and was confirmed.

Dr. J. J. Merson, of Holland, has been confined to his home by illness for some time.

The National Confederation of State Medical Examining and Licensing Boards will hold its Twenty-first Annual Meeting in Chicago, Ill., on Tuesday, February 28, 1911, at Congress Hotel.

The subjects to be taken up at this meeting will be a consideration of the State Control of Medical Colleges; a report by a special committee on Clinical Instruction; a report on a proposed Materia Medica List by a special committee; the report on a paper presented at the St. Louis meeting by Mr. Abraham Flexner of The Carnegie Foundation for the Advancement of Teaching; and some special papers on such subjects as the Regulation of Medical Colleges, Necessity for Establishing a Rational Curriculum for the Medical Degree, and others, by men eminently qualified to prepare papers upon such subjects.

These topics are all of practical and vital interest to medical colleges, medical examining boards, the profession at large and the public. The Symposium will be composed of ten papers, and be presented from the view-points of state, law, *medical colleges, state medical examining and licensing boards and the medical profession.* The contributors of papers to the Symposium on State Control of Medical Colleges are men of the highest attainments in matters pertaining to state, law and the medical profession, and their production will be worthy of the most careful consideration. The chief object of the Symposium is to determine, as far as possible, the feasibility of placing medical colleges under State control. The special committee on Materia Medica made a report at the St. Louis meeting of the Confederation June 6, 1910, and it was continued and instructed to report again at the next annual meeting of the Confederation in 1911.

An earnest and cordial invitation to this meeting is extended to all members of State Medical Examining and Licensing Boards, teachers in medical schools, colleges and universities, delegates to the association of American Medical Colleges, to the Council on Medical Education of the A. M. A., and to all others interested in securing the best results in medical education.

The officers of the Confederation are Pres. C. Guernsey, M. D., 1923 Chestnut St., Philadelphia, Pa., Secretary-Treasurer George H. Matson, M. D., State House, Columbus, Ohio.

The next annual meeting of the Association of American Medical Colleges will be held in Chicago February 27, 28, 1911, at the Congress Hotel.

Inasmuch as the questions which will come up for discussion at this meeting are of interest primarily to physicians generally, every medical organization in the country has been asked to send a delegate.

(Dr. W. T. Dodge, of Big Rapids, has been appointed by President Burr as delegate to this meeting, and to the meeting of the Council on Medical Education which meets two days later.)

COMMUNICATIONS

Sun Life Assurance Company of Canada,
Chief Office, Montreal.

MONTREAL, January 3, 1911.

Councilor the Michigan State Medical Society,
—. —. ——, ESQ., M. D.,
——, Mich.

Dear Sir—I duly received your favor of December 15th last, and refrained from replying to same until such time as we had made inquiry from our representatives regarding the state of affairs mentioned by you.

I would like to say at the outset that our superintendent distinctly states that our local agent never did agree to pay the $5 fee, and, further, never said to send the account to the company and same would be paid. Had he done so I would have been surprised, for he would have had no authority whatever to make arrangements for what fee should be paid for examinations. The fee that we have been paying in the past, viz., $3 for examinations on each application from $1,000 to $3,000, and after that $5, we consider is a just one, and should be ample for the services rendered. Our own chief medical examiner here is not paid more than these fees, and is quite satisfied with them. If the medical men would consider for a moment, they would at once see that the fee of $3 paid by insurance companies is more in proportion than they would receive from an ordinary patient for like services rendered. Furthermore, the doctor is always sure that the fee will be paid, which is not the case in private practice. Then again, the doctor is practically under a yearly contract with the company, and such being the case, instead of increasing the fees there should be a tendency to decrease them, instead of which the doctors are practically using an advantage in combining and refusing to make examinations unless an arbitrary fee is paid. We do not feel that we should have to pay the increased fee, and shall endeavor to make arrangements upon the old basis. I trust, however, that your Association will not hold out, as they propose to do, but will meet us on a fair and equitable basis as I have already outlined.

Yours faithfully,
JAMES R. WRIGHT, *Office Manager.*

DENVER, January 9, 1911.

TO THE EDITOR:

I have read with much interest the recent discussion in your columns on the subject of coccygodynia. Before proceeding to such a violent measure as extirpation of the coccyx, I should recommend to your readers that they first try the value of passive motion and massage. If one or two fingers be inserted into the vagina or rectum, and the thumb be placed on the dorsal aspect of the coccyx, the bone may be manipulated between them. The manipulations should be begun gently, and should gradually be increased in vigor. The main object should be to limber the line up in the antero-posterior plane. As a rule two or three treatments will suffice a cure.

Yours truly,
LEONARD W. ELY.

BOOK NOTICES

An Anatomical and Surgical Study of Fractures of the Elbow. By Astley P. C. Ashhurst, M. D., of the Medical Department, University of Pennsylvania. Imperial octavo, 163 pages, with 150 illustrations. Cloth, $2.75 net. Lea & Febiger, Philadelphia and New York, 1910.

This book contains the Samuel D. Gross Prize Essay for 1910, together with the illustrative histories of the fifty-six cases on which the article is based. Without doubt this is the best exposition of the subject extant. No such results have ever been attained where the diagnosis and end result have been proved and verified by use of the X-ray. Nearly every case is illustrated by at least one skiagraph. Cases 5, 21, 30, 47, 48, and 49 have two each. Cases 18, 32, 42, and 52, have three. Case 24 has four. Case 11 has five, while case 28 requires seven to fully illustrate all the author desires to bring out.

The classification used is so distinct, the anatomical relations are made so clear, the diagnosis is so plain, the treatment is so rational, and the end results are so satisfactory, as to mark a distinctive era in our knowledge of fractures of the lower end of this bone. No doctor can afford to be without this knowledge. No patient should henceforth be deprived of it.

The Physician's Pocket Account Book. By J. J. Taylor, M. D., 212 pages. Leather. Price $1.00 postpaid. J. J. Taylor, publisher, 4105 Walnut St., Philadelphia, Pa.

This book has some easy and practical directions for billing and collecting, some excellent business and legal hints, some valuable forms for emergency use, such as "dying declarations,"

"form for wills," etc., an average medical and surgical fee bill, besides miscellaneous tables, clinical directions, etc. Having a good cash account department and various clinical records,—vaccinations, deaths and confinements,—it forms a complete year-book for the physician's pocket.

The Practitioner's Visiting List for 1911. An invaluable pocket-sized book containing memoranda and data important for every physician, and ruled blanks for recording every detail of practice. The Weekly, Monthly and 30-Patient Perpetual contain 32 pages of data and 160 pages of classified blanks. The 60-Patient Perpetual consists of 256 pages of blanks alone. Each in one wallet shaped book, bound in flexible leather, with flap and pocket, pencil with rubber, and calendar for two years. Price by mail, postpaid, to any address, $1.25. Thumb-letter index, 25 cents extra. Descriptive circular showing the several styles sent on request. Lea & Febiger, Publishers, Philadelphia and New York.

This is a very handy little pocket visit and day book, and contains many useful notes, tables, doses, etc.

The Prevention of Sexual Diseases. By Victor G. Vecki, M. D., with Introduction by William J. Robinson, M. D. Price, $1.50. Critic and Guide Co., New York.

Dr. Vecki has made a careful study of the whole question of venereal disease, its prevalence and prevention, and advocates certain procedures. To any one interested in the subject it would be a valuable book. All the more prominent plans for the suppression of venereal disease are mentioned, and the plan of the Detroit Health Board as reported by Dr. Kiefer is quoted at length. The book is very interesting and contains things which all doctors should know.

Progressive Medicine. A Quarterly Digest of advances, discoveries and improvements in the medical and surgical sciences. Edited by Hobart Amory Hare, M. D., assisted by Leighton F. Appleman, M. D. Volume IV, December, 1910. Lea & Febiger, Philadelphia and New York. $6.00 per year.

This volume is fully up to the standard always maintained by this quarterly. It is devoted to diseases of the digestive tract and allied organs, the liver, pancreas, and peritoneum, by Wm. T. Belfield; diseases of the kidneys, by John Rose Bradford; surgery of the extremities, shock, anesthesia, infections, fractures, dislocations, and tumors, by John C. Bloodgood; genito-urinary diseases, by Wm. T. Belfield; and a practical therapeutic referendum by H. R. M. Landis. The illustrations are exceptionally good.

International Clinics. A Quarterly of illustrated clinical lectures and especially prepared original articles, edited by Henry W. Cattell, A. M., M. D. Volume IV, Twentieth Series, 1910. Philadelphia and London: J. B. Lippincott Company.

In the space at our disposal it would be impossible to mention all the divisions of the subject of medicine and surgery covered by this volume, or even to give a list of the authorities taking part in the work. In view of the action of the Ophthalmological Section at the last meeting of the American Medical Association, the article in the present number of this always useful and practical work by Zantmeyer, of Philadelphia, on Refracting for the General Practitioner, is worthy of mention. The article by James J. Walsh on Physicians' Fees Down the Ages, is well worth reading. It shows that the purchasing power of the physician's fee has steadily decreased.

Hydrotherapy: a Treatise on Hydrotherapy in General its Application to Special Affections, the Technic or Processes Employed, and Use of Waters Internally. By Guy Hinsdale, A. M., M. D., Lecturer on Climatology, Medico-Chirurgical College of Philadelphia. Octavo of 466 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, $3.50 net.

The above-mentioned book is timely, well written, on a live subject, and thoroughly practical. Hydrotherapeutics are being more and more used each year. The technique is better understood and less dreaded by the profession, and its later works like the above will not only familiarize us with hydrotherapy, but will teach us its uses and virtues. Under General Hydrotherapy the physiological action on the respiration, heart, and blood is thoroughly discussed and scientifically explained. Under Special Hydrotherapy the technique of its application is carefully and painstakingly given for the various and numerous diseases and conditions for which it is employed. This technique is clearly brought out in the text and the multitude of illustrative engravings that adorn the work. The subject of Mineral Baths and the internal use of mineral water receives honest attention, their indications and use being carefully and scientifically explained.

The final chapters embrace prescription writing for hydrotherapeutic treatment, including the kinds of treatment, temperature of water, length of time for treatment to be employed, etc.

The Appendix gives many plans and valuable touches about hydrotherapy, which explains the growth, emphasizes the value, and clears up many false ideas and superstitions.

This is a decidedly valuable and practical work.

A Manual of Diseases of the Nose, Throat, and Ear. By E. Baldwin Gleason, M. D., Professor of Otology at the Medico-Chirurgical College, Philadelphia. Second revised edition. 12mo of 563 pages, profusely illustrated. Philadelphia and London; W. B. Saunders Company, 1910. Flexible leather, $2.50 net.

This is a valuable handbook of the Diseases of the Ear, Nose and Throat, containing the very latest information and in a concise and usable

form. The style is clear, and no unnecessary words are used. The book is particularly valuable to the general practitioner who occasionally has to treat these conditions.

Internal Secretions from a Physiological and Therapeutic Standpoint. By Isaac Ott, A. M., M. D. E. D. Vogel, Bookseller, Easton, Pa., 1910. Price, $1.00 bound in paper.

This little volume of a hundred and thirty pages contains three lectures delivered to the students of the Medico-Chirurgical College of Philadelphia, and is presented in this form owing to the many requests for the subject-matter of the lectures. Our knowledge of the internal secretions is in the formative period, and this volume is a distinct addition.

The Practical Medicine Series. Comprising Ten Volumes of the Year's Progress in Medicine and Surgery. Under the general editorial charge of Gustavus P. Head and Charles L. Mix. Volume IX, Skin and Venereal Diseases and Miscellaneous Topics. Edited by W. L. Baum, M. D., and Harold N. Moyer. Chicago: The Year Book Publishers. Price net $1.25.

This book, like the whole series of which it is a part, treats of the advances to be especially noted in the domain of skin and venereal diseases, besides several miscellaneous topics, and treats these things in a manner suited to the general practitioner, for whom the series is especially intended. The section on miscellaneous topics contains a discussion of medico-legal topics, the State control of the practice of medicine, vivisection, and life insurance. The illustrations are good, references to the original articles are given, and the book seems complete.

Principles of Therapeutics. By A. Manquat, national correspondent to the Academie de Medicine. Translated by M. Sinbad Gabriel, M. D. New York and London: D. Appleton and Company, 1910. Cloth net $3.00.

The subject matter of this book is well chosen. The author does not, as some might suppose, take up drugs, etc., and tell of their actions and uses. Rather he gives the why's and the wherefore's of the methods and manners of treating a patient. He gives his reasons for the different action of remedies when used by different men, or in different ways. The doctor exposes the supposed remarkable cures some physicians have when, by the neglect of some matter of asepsis, they have infected the patient, as in the frequently occurring case of passing a catheter. When for some reason physicians are changed, the proper course of procedure for the new attendant is discussed. On the whole the book is very entertaining reading, and would give many a man more than one good idea. There is only one drawback, and that is not serious. The book was translated by a foreigner, and the idiomatic expressions are always a source of delight.

BOOKS RECEIVED

Transactions of the Fourth International Sanitary Conference of the American Republics, held in San Jose, Costa Rica, December 25, 1909, to January 3, 1910. Published and distributed under the auspices of the Pan-American Union, John Barrett, Director General, Washington, D. C., 1910.

"World Corporation," by King Camp Gillette. The New England News Company, Boston.

"The Saw and Crushing Instruments in Surgery of the Nasal Septum," by Bryan DeF. Sheedy, M. D., New York. Reprint.

Abstract of Proceedings United States Pharmacopœal Convention, 1910.

Transactions of The Medical Association of the State of Alabama, organized 1847—meeting of 1910. Mobile, April 19-22.

NEWS

Dr. Frank Smithies, of Ann Arbor, has been seriously ill for two or three weeks, under the care of Dr. A. W. Hewlett. As we go to press we are informed that he is convalescing rapidly, and will soon be able to care for his practice.

AS OTHERS SEE US

Some kind friend has sent to the JOURNAL, all the way from Imlay City, which, be it known, is in Lapeer County,—and that, gentle reader, is in the fair State of Michigan,—a copy, duly marked, of the *Imlay City Times*, a paper. The paragraph marked contains the information that a palpitating world has long awaited; the real nature of the frailty of age and the loss of vigor that comes with the passing years. It is "tox cord, or toxic cord." In some mysterious way a drop of blood gets in the bony canals that let nerves out from the cord to all the organs of the body, and this drop of blood dies, or gets tired, or gets toxic; it may even lead to blindness, unless "Dr. Harlan" takes a whack at the poor victim, and then, of course, he is restored to youth and vigor and relieved of his blindness. Treatments are only $2 each, but *spot cash.* Is there anything that human credulity will not swallow? Is there any sort of fake that can not be "put over"?—*California State Journal of Medicine*, January, 1911.

Persistent lymphedema of the breast may be the first, and for a long time the only sign of a scirrhus carcinoma.—*American Journal of Surgery.*

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ORIGINAL ARTICLES

TUBERCULOSIS IN CHILDREN: SOME ASPECTS OF THE PROBLEM*

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Detroit, Mich.

The prevalent popular conception of tuberculosis must be changed. It is regarded as a very fatal disease: indeed, one is not infrequently asked whether patients with consumption ever do actually recover. As a matter of fact, tuberculosis, in view of the number of people infected, must be considered as a disease of rather low mortality. Its insidious symptoms ordinarily hide the early stages and aborted cases. It is undoubtedly the most wide-spread of all parasites dangerous to human life, and its death-roll is unequalled. Still the great majority of persons infected recover, as shown by post-mortem statistics.

There is ample clinical and experimental evidence in favor of the latent infections of prolonged duration. As Von Pirquet says, "The whole adult pathology of tuberculosis is chronic processes, reinfection or terminal stages, the beginning of which must be referred to childhood." If it is true that the majority of people are infected before the age of fourteen, then the study of the early stages must be made in childhood. It is the study of these early stages and of the course of fatal cases which is to lead us to a more effective campaign of prevention.

INCIDENCE AND AGE DISTRIBUTION

In 1131 autopsies on children under three years of age at the Babies Hospital in New York, Wollstein found 185 cases of tuberculosis. This made 11.4% of the cases studied. Of these, 11% were infants under one year, 35% between one and two years, and 27% between two and three. These figures are fairly typical of other series published abroad by Orth, Heubner, Hamburger, and others.

Shennan reports from Edinburgh, 1085 autopsies on children up to thirteen years, and of these, 421, or 38.8%, were tuberculous. In nearly one-half of those cases (44.8%) death was due to meningitis.

The number of deaths due to this disease, however, by no means represents its prevalence. Thus in Vienna Von Pirquet found 90% of hospital children reacting to his test. These, however, were sick children from poor families in a city where tuberculosis is so prevalent that all over Germany it is recognized by the term

* Read at the Forty-fifth Annual Meeting of the Michigan State Medical Society, Bay City, September 28, 29, 1910.

Published simultaneously in "Pediatrics," New York.

"Wiener Krankheit." In 1907, Lowman found in Cleveland that 20% of 500 school-children gave evidence of infection, and Roux, in Paris, found 40%. In 2295 school-children in New York, tuberculosis was found in 29%. Dietrich, of Berlin, from a recent analysis of Prussian statistics, reports that there are a greater number of actual deaths from tuberculosis in the first year of life than during any other period. He further states that while the general death-rate from tuberculosis has decreased 20% in twenty years, the infant rate has increased (Bonney). These figures show, without a doubt, that tuberculosis in children is common, and in the first year of life is very fatal.

The accompanying charts (modified from Williams) show the substantial agreement (No. 1) between post-mortem findings and tuberculin reactions in regard to the great prevalence of tubercular infection among children. The second chart concerns only children who have died of tuberculosis, and shows the age at death.

HEREDITY AND FAMILY RELATIONS

In spite of the fact that tuberculosis definitely transmitted from parent to child is almost a medical curiosity, the presence of a consumptive in the family is still the usual cause of tuberculosis in the child. Perhaps the most important diagnostic point is the demonstration of an infective agent to which the child was exposed. *So far as the infant is concerned, one should suspect tuberculosis in every illness when distinct exposure to that infection has taken place.* Careful inquiry will often develop the most astonishing lack of precaution to prevent the spread of the disease. Thus one child under my care at the Children's Hospital, with tuberculous pneumonia, had been the constant companion of a tubercular father until the latter's death. One of the father's amusements was to pass his pipe from his own mouth to that of the child! Other equally astonishing incidents are frequent. So great is the susceptibility of small children, that one rather expects them to be infected when occupying the same residence with an open case of tuberculosis.

Floyd and Bowditch, investigating conditions in Boston, found that of 1000 children giving definite signs of tuberculosis, sixty-seven per cent. had tuberculous parents. Miller and Woodruff, of New York, found that in 150 children of tuberculous parents, 51% were positively tuberculous. Many observations confirm the statement that the children in households sheltering patients are especially liable to infection with this disease. The question of heredity as regards a diminution of resistance to infection may be left for biologists to settle. *For us remains the fact of danger to the children of a tuberculous family and our duty of protecting those children so far as possible.*

DISTRIBUTION OF LESIONS

Until very recently the most of the text-books have stated, and it has been generally taught, that pulmonary tuberculosis is rare under ten years of age, but the accumulation of series of post-mortems of children have shown this to be wrong. Thus at the Sixth International Congress, Wollstein reported autopsies on 185 tubercular children under four years of age in New York. These show that tuberculosis of respiratory origin is by far the most common type. Of the 185 cases, just seven could be called primarily intestinal. Medin found but six intestinal cases in 595 autopsies, Hamburger no cases in 335 autopsies. Clinical signs are very deceptive in these cases, as will be mentioned later, and autopsy records have done much to correct our ideas about these lesions.

In small children the lesions are mostly wide-spread, in cases running a short course. Thus every series shows from 25 to 50% of deaths from meningitis. This is never

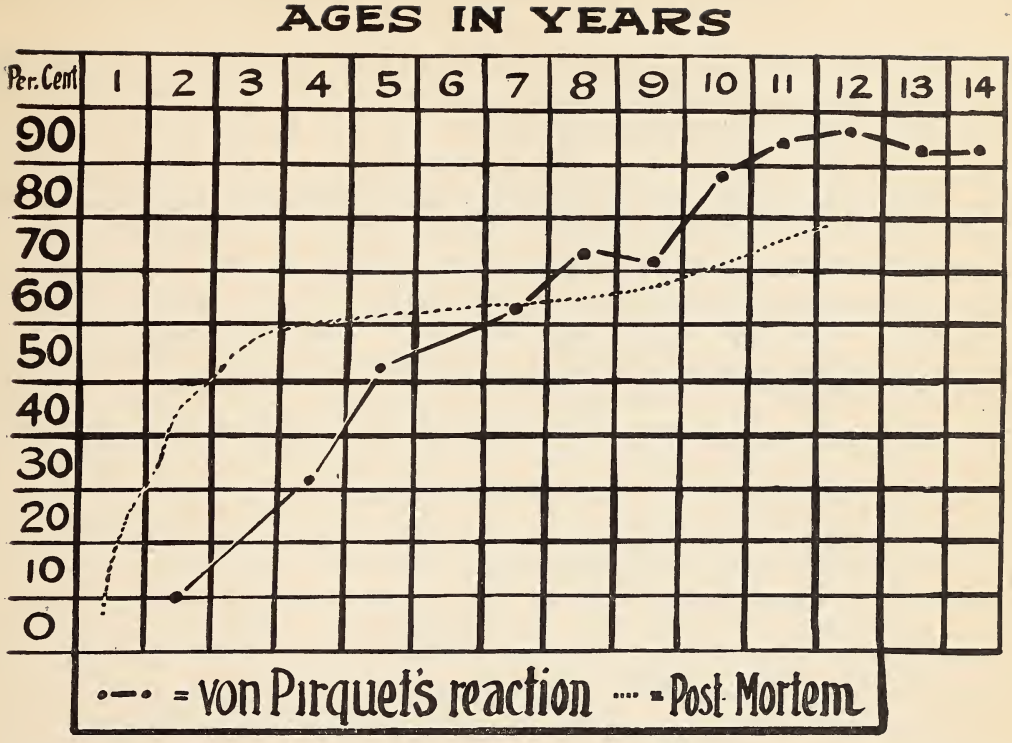


Fig. 1.—Showing substantial agreement of post-mortem records and von Pirquet's test as to the widespread prevalence of tuberculosis in childhood.

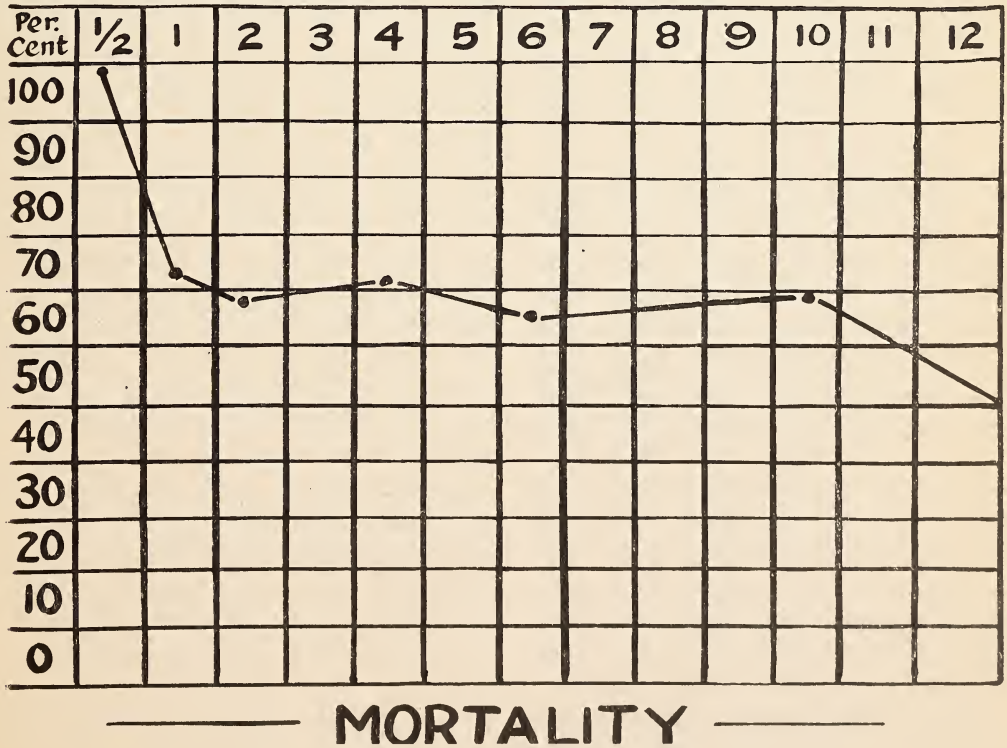


Fig. 2.—Mortality rate of tuberculosis at different ages.

primary, however, but usually secondary to a process in the chest. I have recently seen a case in which it followed tubercular glands in the neck. There were at no time any signs in the chest. No autopsy, however, was done. The almost constant presence of lesions along the intestinal tract is due not to the fact that there are tubercle bacilli in the milk, but that they are swallowed in the sputum, as a small child never expectorates. A second reason for the wide distribution of lesions in small children is the great activity of the lymphatic system, and especially the activity associated with the growth of the brain.

In Wollstein's series of 185 autopsies the distribution of principal lesions may be summarized as follows:

1, Lungs, 185. Of these 41 cases had miliary tubercles only, 54 were miliary and cheesy modules, 51 cheesy pneumonia, and 39 had cavities. 2, bronchial nodes, 176; 3, spleen, 161; 4, liver, 157; 5, pleura, 147; 6, mesenteric nodes, 135; 7, kidney, 72; 8, mediastinal nodes, 38; 9 intestines, 50; 10, pancreas, 7; 11, stomach, 4; 12, cervical nodes, 6; 13, adrenals, 5.

The predominance of respiratory forms of the disease is clearly shown by these figures. One is impressed, also, that with the lesions so widely distributed, the immediate fatality of a case may be due to destruction of vital tissues incidently in some location quite remote from the main process.

Observers seem very largely agreed that the diagnosis of pulmonary tuberculosis in infants by means of physical signs alone is impossible. As children grow older, they of course approach the adult type. In infancy, however, physical signs are suggestive only, and their presence or absence merely confirmatory of other evidence. As said before, the history of direct exposure should make one always suspicious of tubercular infection, whatever the symptoms. We now use the Von Pirquet test in infancy and the Calmette in older children.

DIAGNOSIS

While they have their limitations, one can rely on positive results of the Von Pirquet test under the age of two years as being certain proof of the existence of tuberculosis, except in the presence of measles. A child with measles will give a positive Von Pirquet before the eruption appears. The Calmette reaction should be applied with great caution. The eye should be carefully examined for signs of disease, and, if possible, inquiries be made to show that at no previous time has disease of the eye of any sort existed. Tuberculous iritis is by no means uncommon in children, and this fact must be borne in mind. A distinct Calmette reaction means almost surely active tubercular foci. Negative reactions, however, should by no means be taken as strong evidence of freedom from infection.

Temperature has much less significance in the diagnosis of tuberculosis in children than in adults. Within two weeks I have had a child of two years (Marvin) who died with pulmonary tuberculosis. For weeks his temperature was within normal limits, although the disease was far progressed. It may be noticed, in passing, that this child was buried on the same day as his mother, both victims of the same disease. The X-ray should be useful in connection with the physical signs in these cases, but I have had very little opportunity to test this means of diagnosis.

Sputum can be obtained from an infant by irritating the pharynx with a piece of gauze and examining that part of the sputum clinging to it. In tubercular meningitis Dr. J. E. Synder, resident pathologist to the Children's Free Hospital (Detroit), has shown that by diligent search the bacilli can practically always be demonstrated in the spinal fluid. The presence of tubercu-

lides in the skin is an important diagnostic point in general miliary tuberculosis in infants, as recently pointed out again by Tileston.

These tuberculides are frequently overlooked, as there may be only two or three on the whole body. They are small, round, slightly raised papules, at first red but later fading to brown. The crust is scaly and can be scraped off, leaving a tiny depression in the center. By teasing and staining the epithelium of this scale, tubercle bacilli may be demonstrated. I have shortly had a case showing these spots, and tubercle bacilli were easily found in the teased epidermis.

PROGNOSIS

Tuberculosis in infancy is a very fatal disease. One statistician places the mortality under six months at 100%. Under two years it is still very high, and in children under ten years the mortality reported is about twice as great as in adults. This is very largely due, however, to the late diagnosis and lack of therapeutic effort, in my opinion. Goodall (*Boston Medical and Surgical Journal*, September 15, 1910) has recently reported on the results of the sanatorium treatment of children at Stony Wold. One hundred and twenty children between the ages of six and fifteen had been discharged. The percentage of apparent cures was more than twice the rate in adults from the same institution, and of those discharged "cured' or "arrested" not one has died or relapsed since leaving the institution. This seems fairly conclusive that children with pulmonary tuberculosis react well to sanatorium treatment, and that such treatment should be provided for them.

This idea has only recently found expression in buildings. Until this year, no especial provision for children had been made in the sanatoria in this country, although there was general agreement that it was needed. The state authorities of Pennsylvania and New York, however, are now building such pavilions, and the preventorium of the New York Charities Association, near Lakewood, is being planned on an elaborate scale. The Red Cross Society of Michigan has recently erected a pavilion on the grounds of the Sanatorium of the Detroit Board of Health for the special use of children.

I show the plans for a pavilion for children shortly to be erected for the Detroit Tuberculosis Sanatorium. Besides the rooms for beds, one small ward and five private rooms, there are special provisions for the children. The building can be closed and heated, so that in severe winter weather the patients may still be comfortable while eating their meals, dressing, etc. Room is provided for the constant presence of a nurse and a complete diet kitchen. The second floor has a central room surrounded by windows, which can be all or partly dropped down to the floor, giving a roofed pavilion. On either side is a roof-garden with a pergola. In this pavilion we hope to successfully treat and study tuberculosis in children.

OPEN-AIR SCHOOLS

A word about open-air schools. We as physicians can hardly do a better service for coming generations than to foster the idea of open-air schools and promote its realization. They have long since passed the experimental stage in Europe, and those in this country have proven a great success. Those of you who have personally experienced the stimulus of open-air sleeping can easily believe the statements of teachers, that the study hours of children in the open air are much more profitable than those spent in the ordinary close school-room. The universal eagerness and zest of these children has been a surprise and constant pleasure to their teachers. These classes have, as a rule, been confined to children found by medical examiners in public

schools to actually have clinical evidences of the early stages of pulmonary infection. In Boston last year more than one hundred pupils attended school on the roof of what had formerly been a refectory in Franklin Park. The management of the school was under the Boston Tuberculosis Association, the City School Department furnishing the teachers and car fares, and the Park Department the building. The unused portion of a large building on the border of the great Franklin Park, in the suburbs of the city, was found to be admirably suited for the purpose, and after some hesitancy on the part of the Park Commissioners—such is the fear the word "tuberculosis" arouses —it was finally obtained for the purpose. A sunny room for the kitchen and dining-room, a rest-room, lavatories, and a school-room for stormy weather, were provided. Upon the spacious roof with its pergola a tent was placed for the children's desks, which was the school-room in ordinary weather, canvas curtains being provided for high winds. The stormy-weather room was rarely if ever used. Each child had a bag of waterproof canvas, lined with blanketing, fitted about the legs and up over the back. In addition each one had a thick ulster overcoat, warm cap and mittens, woolen stockings and Arctic overshoes. The home conditions were carefully supervised by a nurse, who also took the children to dental, eye, ear, nose or throat clinics for examination or treatment. A director and cook trained the children in hygiene and economics, and the director had general oversight of their welfare. The children were given three meals each day of nutritious food. The daily routine was as follows: On arriving at the school each morning, the children had breakfast, and then some attended to their exercises in the classroom, while others, for a short time, worked in the kitchen and dining-room. In the forenoon there were school exercises, with a recess, breathing exercises, play, and preparation for dinner. For an hour after dinner all the children rested in their sleeping-chairs. The afternoon was passed as in the forenoon, and after supper they returned to their homes. One of the scholars, when asked to give the reason why he liked the open-air school, wrote: "I like the open-air school, because I have grown stronger and healthier, also because I have gained six pounds."

Experience has demonstrated, as the results in the Boston school have shown, that many of these children fully regain their health and are enabled to return to the ordinary schools.

Similar schools have been now established in New York, Chicago, Washington, Providence, and Brooklyn, and other cities in this country, and in Germany and England. "Every city," says the National Tuberculosis Association, "should provide at least one well-equipped school or special classroom of this sort for each twenty-five thousand population "

All the children have originally shown distinct physical signs in the lungs; but no advanced or well marked "open" cases are admitted. The expectoration in those cases that had any soon ceased, except for a little in the mornings, which continued a somewhat longer time. When discharged from the school they are still visited in their homes by the nurse, and taken to the Out-patient Department at regular intervals for observation and care. In every case their homes have been under the constant supervision of the Association's nurse, and have been improved hygienically during their attendance at the school, so that conditions are more favorable for a continued improvement in health.

In New York I visited a similar school conducted on an old ferry-boat moored in the East River at the Bellevue Hospital dock. A trained nurse is in attendance, and on the day of my visit one of the children

suddenly developed a temperature and had been put to bed on a cot in the open air in a remote corner. It is perhaps needless to state that these schools are under close medical supervision.

Superintendent Martindale, of the Detroit Public Schools, has recently gone a step further and given orders that in good weather as many classes as can be accommodated shall recite out-of-doors. Just how this will work out remains to be seen, but it is a move in the right direction and such experiments should and will receive the cordial support of the medical profession. The important move now, however, is that children in the so-called "pretuberculous stage" have special provision made for them to attend school in the open air under careful supervision.

Teachers are said to be very frequently affected with tuberculosis. Professor Brouardel has stated that one-fifth of the teachers in Paris are tuberculous. In 1908 Dr. J. N. Harty, Secretary of the Indiana State Board of Health, investigated this question in his state, and found that tuberculosis was fifty-one per cent. more prevalent among teachers than the general rate.

In the world-wide campaign against tuberculosis the child has not received the attention which his importance, as we now understand it, demands. To this, France, owing to the influence of Professor Grancher of Paris, has been a notable exception, and her institutions for tubercular children are a model for the world. Professor Grancher says his appreciation of the importance of this work was due to a sentence in Pasteur's famous book on diseases of the silkworm, to the effect that to eradicate an infectious disease the sure way was to save the cocoon —a profound truth, indeed. Other nations have followed France in this respect, and in Sweden, for example, healthy children of tuberculous parents are placed in temporary homes to remove them from the danger of infection. In most of the continental countries, institutions in the country are provided for suspected cases from tuberculous homes.

Without in the least undervaluing the great worth of the efforts now in vogue in the conduct of the tuberculosis campaign, I still insist that the logical and hopeful point of attack is childhood. The universal attendance at school brings practically all the next generation under the eye of public officials. Here is the place to work. Medical examiners in the schools might detect all rank cases and direct weaklings to schools primarily for health. This is by far the most hopeful stage for treatment. Again, the watchword of the modern campaign against tuberculosis has been "Education." *The place to educate is in the school.* Public lectures, exhibitions, newspaper articles, are good, and should be continued for the benefit of the present generation. But they are *negligible* in influence beside the deliberate, well-planned, thoroughgoing teaching of the public schools, and this special teaching should by no means be confined to tuberculosis, but should include the general principles of infectious diseases.

This line of discussion could lead us far afield into the subject of modern common school education. I cannot pass the opportunity without expressing my conviction that some practical additions to the curriculum are very important.

The Indian boy was taught to run, to swim, to hunt,—the rudiments of those arts which would enable him to protect himself from wild animals and other foes, and to furnish himself with food and clothing. The modern city child is in no danger from wild animals, but he is in danger on every hand from microscopic parasites. Is it not logical and necessary that he be taught to protect himself from them? This is one of the places where the modern school fails, and where we, as a profession, should insist that it advance to meet modern conditions and disseminate modern knowledge.

Bibliographical Note

The number of papers on this subject in the last few years is very large. The few references below indicate some interesting material, which contains many references to individual papers:

1. *Tuberculosis in Childhood.* By various writers. Edited by T. N. Kelynack, M. D. 376 pages, illustrated. Wm. Wood & Co., 1908.

2. *Tuberculosis in Childhood.* C. von Pirquet. Chapter in Kleb's volume on Tuberculosis (Appleton).

3. *Results of Sanatorium Treatment of Pulmonary Tuberculosis in Children.* Henry S. Goodall. *Boston Medical and Surgical Journal*, September 15, 1910.

4. *Proceedings of Sixth International Congress on Tuberculosis.* Volume II. Section on Children.

Discussion

Dr. Victor C. Vaughan, Jr., Detroit.—The paper of Dr. Rich is not only very interesting, but very instructive, and he has certainly presented the subject in a way which is very clear and concise. The chart showing the occurrence of tuberculosis at the different ages is especially instructive. It gives us a very good clue as to why the Von Pirquet reaction is of little or no value after the age of early childhood. Practically every one who has passed this age has at some time or other become infected with the tubercle bacillus, and although for all practical purposes they are well people, still they have been infected to a sufficient extent to react to this very delicate and sensitive test. The Calmette test, not being so sensitive, is of value after this period.

I was glad to hear the Doctor state that pulmonary tuberculosis is more common in children than is generally supposed. I was led to think that I could find tuberculosis where it did not exist. In connection with my work with the Board of Health in Detroit, we have had occasion to examine a great many children of the poor families, and we have found them infected with tuberculosis to an appalling extent.

Whereas the results of physical examinations are somewhat doubtful and dubious, owing to the characteristics of the breath sounds in children, still certain children did show signs not only of consolidation, but also of cavities which were apparent on very superficial examination. We have taken as a rule children of tuberculous parents, having subjected them to the tuberculin test. If they reacted positively, they were transferred to the hospital for a period of observation, and without exception these small children have shown clinical evidence of active tuberculosis, as indicated by a temperature of 99½° to 100°, by rapidity of the pulse, both usually combined at some stage during the day. My experience has been that these children do remarkably well. We have children who have been in the hospital two years ago, and now to all appearance are well, no temperature, and have done much better than adults, who have died under similar circumstances. The charts are very interesting, particularly when we compare the mortality chart with the Pirquet reaction chart as showing the very probable development of immunity in the tuberculosis subject.

Dr. J. H. Dempster, Detroit.—I would like to ask the author of the paper about the Moro test. It seems to me that it is a very convenient test to apply, and I would like to hear his opinion as to the relative value of this compared with the Von Pirquet and the Calmette tests.

Dr. Johann Flinterman, Detroit.—I had occasion some time ago to see a child who was suffering with muscular dystrophy. The child was twelve years old, and very weak. It was necessary, on account of the condition of the child, to confine it to the house in the winter. A physician was not engaged to keep that child under observation, and it did about as it liked. I was called to see the child when it had a temperature of 99° in the evening, and perhaps 99° in the morning. I made a very careful examination of the respiratory organs, and I confess that I was unable to find anything to indicate that this child was suffering from tuberculosis. The child commenced to grow weaker, respiration was very frequent. The child was afraid to stay in her room, and couldn't go out at all. The temperature in the evening would rise sometimes to 103°, and be in the morning 98°. I called in another physician with considerable experience in children's diseases, and he concluded that my diagnosis of incipient tuberculosis was wrong. The child became worse, and finally died of tuberculosis. It is a fact that these people will suffer with this peculiar muscular affection, and die finally with tuberculosis. There was no tuberculosis in this family on either side. The mother of the child had one sister die when she was

two years old. In reading the literature, I find that all cases of muscular dystrophy were of this same kind. We do not know all the time where the cause is to be sought, but if we investigate the cases, and at the time the diagnosis is made take the whole clinical picture, we will never fail to see that it is tuberculosis.

Dr. T. M. Koon, Grand Rapids.—I am not just clear in my mind as to the line of demarcation which the Detroit doctor made in the use of the two tests, but as I understand it up to ten years of age the Von Pirquet test is perfectly reliable, but after ten it is too sensitive. Then we switch off upon the Calmette. I have used in the last two or three years the Von Pirquet test quite extensively. I have now in the State Sanitarium six patients that I sent there, upon every one of whom I used the Von Pirquet test. The symptoms, the early history of the case, and the findings in each case, pointed to the individual having tuberculosis. On top of that I gave the Von Pirquet test. They reacted. I felt safe in concluding that I was dealing with cases of active tuberculosis. Last winter Dr. Ravenel and Dr. Knopf were both in Grand Rapids. I asked them about their views in regard to the Calmette test, and they both said that it should be considered dangerous.

Two years ago I was working in Brompton Hospital, England. I talked to a number of the men there, and almost invariably they said that they considered the test dangerous, and advised against its use; so that it seems that there is a wide difference of opinion in regard to the Calmette test. It seems to me that if the test is reliable in children up to ten years of age, that if we get a case in an adult, the history of the case and findings all pointing to tuberculosis, and we get the Von Pirquet reaction, then we are justified in concluding that we have a case of tuberculosis.

Dr. John H. Crosby, Otsego, Mich.—Along the line of the value of the Von Pirquet test for tuberculosis, I might say that I inquired of the German pediatricians, Finkelstein and Heubner and Langstein, their idea of the value of the Von Pirquet test, and they all said that the Von Pirquet test was of value up to six months of age. If you get a positive reaction up to six months, you can say the child has active tuberculosis. After that you can simply say the child has active tuberculosis, or may have had active tuberculosis. It does not signify that the child has an active tuberculosis at the present time, if over six to eight years of age it gives a positive reaction.

I might say that the only positive contra-indication for breast feeding in children is tuberculosis in the mother. If the mother has tuberculosis, then it is a crime to feed the child from the breast of this mother. There is a classic example of a pair of twins that were born, one child removed from its mother, and the other child nursed by its mother. The child that was removed was perfectly healthy, and remained that way, while the child that was nursed by its mother became tubercular.

Chairman Smithies, Ann Arbor.—I was rather surprised at the statement of Dr. Koon as to the position of Dr. Ravenel and Dr. Knopf. I suppose it is rather incumbent upon me to defend my position as to the Calmette test. From personal observation of between six hundred and seven hundred instillations of tuberculin into the eye, I may say that only five cases have shown any serious results, and I may add at the same time that if careful examination of the eye had been made previous to the instillation, or if the patient had been kept under close observation, it is extremely doubtful as to whether there would have been any deleterious effect whatever. Three years ago I called attention to the fact that in the use of all these tuberculin tests it was necessary to use the greatest care in watching the patient after the use of the tuberculin, whether the tuberculin be administered subcutaneously, or by skin scratching, or by a solution of tuberculin put into the eye. We are playing with a rather dangerous instrument in using tuberculin indiscriminately. While in general it seems to be demonstrated that tuberculin is harmless if properly controlled, still we have cases where tuberculin was used recklessly, and it has certainly had a bad effect as a result of the uncontrolled administration.

I must agree with what Dr. Rich has shown with regard to the manifestations of the Von Pirquet test. I certainly must add my support to his view concerning the Calmette reaction. I am using these reactions every day in private practice, and I have yet to see a patient who has suffered any ill effects from their use. It may be stated that I should certainly be glad to report such if they had occurred. The securing of any positive test, subcutaneous, by the eye or skin or nasal reactions does not necessarily mean that the patient has consumption or has active tuberculosis anywhere. It simply indicates that we have such condition in the patient's blood serum as to exhibit at some local point the external manifestations of the production of protective

bodies; so that in connection with all tuberculin tests, before and after the application of such a test, or its manifestation, examine the focus, whether it be in the lung, on the surface, or in the bone or internal organs. Unless this is done, the mere fact of a typical reaction means absolutely nothing. If the tuberculin tests are controlled in this manner, there is absolutely no doubt as to their clinical worth, and the sooner such facts are recognized by the profession the better it will be for the patients, the more cures we will have to report, and I think the more satisfactory will the tuberculosis situation be made all over the country.

Dr. Dempster.—May I ask what the Doctor understands by "pre-tubercular stage"?

Dr. Rich (closing).—We might discuss this matter for several days, and with considerable profit, I am sure, to those of us who are interested in the question. It is such a large question, and there are so many phases of it, that the discussion would last a long time. I endeavored in the paper which I read not to go over many things. We are generally interested in coming to some understanding with regard to some of the really important points about this thing. The one question, it seems to me, is the matter of the tuberculin tests. Without doubt the last word has not been said in regard to those tests. We are pretty well satisfied, however, as to the general direction of the final verdict in regard to it. Von Pirquet himself does not claim that the test is especially suitable after infancy, and we have used it up to the age of two years. Dr. Vaughan's mention of the age of ten years was quite accidental. It is merely some stage of the child. It is not possible to say any year. If you have the Von Pirquet reaction under the age of two years, you will be pretty well satisfied that there is a tuberculous process which has not been quiescent very long. We have had two cases of severe conjunctivitis at the Children's Hospital from the use of the Calmette test, and the fact that tubercular choroiditis is not very unusual in small children is an argument for care in its use. These cases should be, however, under careful observation before the test is made. This was in the early days, and Dr. Vaughan has pretty well convinced us in Detroit that if you take pains to make sure that the eye is a healthy eye, and if you do not put in an entirely unnecessary quantity, that it is a perfectly safe reaction. There may be some exceptions to that, but very few.

The Moro test I have used very little. We tried it a few times, but we found the Von Pirquet so easy to use, and so satisfactory, that I have not had occasion to have much experience with the Moro. Perhaps someone else can answer the question better.

The things which I wish to emphasize in this paper are that nearly everybody is affected with tuberculosis in childhood, and if we as a profession are to combat it successfully, we have to realize it. A number of cases of malnutrition, marasmus, and some others which I have seen come to an autopsy, show broken-down glands, and this has led me to believe that it is very much more common than we suspect, and that is one of the reasons for my calling attention to it at this time. If we are going to finally make a great advance in the treatment of tuberculosis, we are going to do it in children. The way in which we will finally conquer tuberculosis, if we do conquer it, will be to teach the children in school, and to eliminate school-children as the source of infection. It is not very often possible to control the expectoration of the child. It is very frequently difficult to manage them. That is where we will have to make our gains, and that is where the disease must be stopped.

Dr. Smithies remarked that so far as the Von Pirquet reaction is concerned it does not always mean tuberculosis. This is very well shown by the fact that in the early stages of measles you get the reaction, before the eruption is out. We will probably find some other limitations of the test in the course of years.

In regard to the term "pre-tubercular stage," that is put in quotation marks. It is a bad term, and I used it simply because it has been generally used, and I did not know how to get around it. I mean that group of children who are poorly nourished, and who frequently have the beginning of a tubercular infection, but in whom you are not able to demonstrate it. Those children should be taken out of the school-rooms, and have the benefit of open-air schools, and supportive open-air treatment.

The next Annual Meeting of the Michigan State Medical Society will be held in Detroit September 27-28, 1911

RUPTURE OF THE BLADDER*

R. C. STONE, M. D.
Battle Creek, Mich.

Rupture of the bladder is not a common accident. It occurs more frequently in men than women, and is often found complicating a fracture of the pelvis. The full bladder is the one most liable to injury, and may become ruptured from blows upon the abdomen, kicks, falls, and spontaneously from the straining efforts during parturition, obstructed urination, and difficult stool when the bladder is diseased. An empty bladder may become injured in any accident. Ruptures occur at times from instruments. Among the predisposing causes are diseases of the bladder,—and acute and chronic alcoholism.

The symptoms are shock, which is very pronounced, severe pain over the lower abdomen, frequent efforts to urinate with little or no result. Within a few hours these patients show signs of a beginning peritonitis, with chills, a thready pulse, persistent and almost constant hiccough, vomiting, abdominal rigidity and tenderness. Upon palpation of the abdomen these patients suffer extreme pain.

The diagnosis can usually be made from the history of an accident, with shock, severe pain, and frequent desire to urinate, with little urine, which is mixed with blood. Frequently efforts to catheterize will find very little blood-mixed urine in the bladder, but occasionally, when the tear is large or the catheter slips into the peritoneal cavity, there will be large quantities of bloody urine passed. In some cases of incomplete ruptures, frequently the first symptoms to be noticed will be the beginning of a peritonitis or pelvic cellulitis and abscess. Many other methods to aid in making a diagnosis have been suggested, but all subject the patient to the dangers of infection, and rather than take the time necessary, it is far safer and better for the patient, to begin the necessary treatment early.

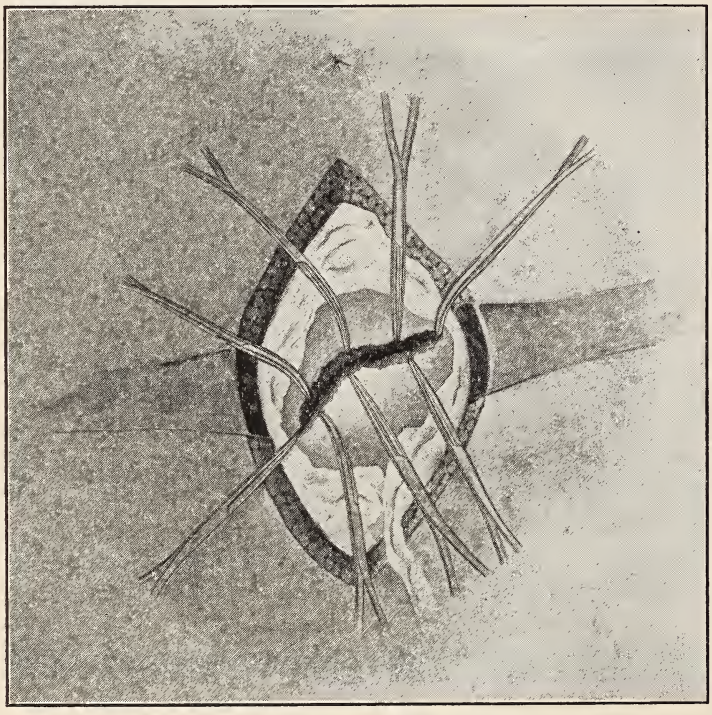
The prognosis is grave, but much depends upon the treatment, or rather the length of time after the accident before the necessary treatment is begun. Bartels in 1882 analyzed 169 cases, with a mortality of 90%. In 1903 D. F. Jones analyzed 54 cases, with a death-rate of 48%. Those operated within the first twelve hours gave a mortality of 38%, from twelve to twenty-four hours, 70%, and over twenty-four hours about 78%.

The treatment is surgical and consists of abdominal section and suturing the rupture with Lembert sutures, reinforced with a second layer, cleansing the peritoneal cavity, the insertion of drainage, and leaving a catheter in the bladder through the urethra.

The case I am going to report was that of Mr. H., age forty-one years, apparently in good health, but a man who had been a heavy drinker and gave a history of specific trouble, who on the evening of January 7, 1910, had been drinking a little, possibly two or three pints of beer, and after retiring, about 10.30 P. M., got up to urinate, and in walking across the floor stubbed his toe on a rug, and in falling landed on the back of a small rocking-chair, striking his abdomen between the symphysis and the um-

* Read at the Forty-fifth Annual Meeting of the Michigan State Medical Society, Bay City, September 28, 29, 1910.

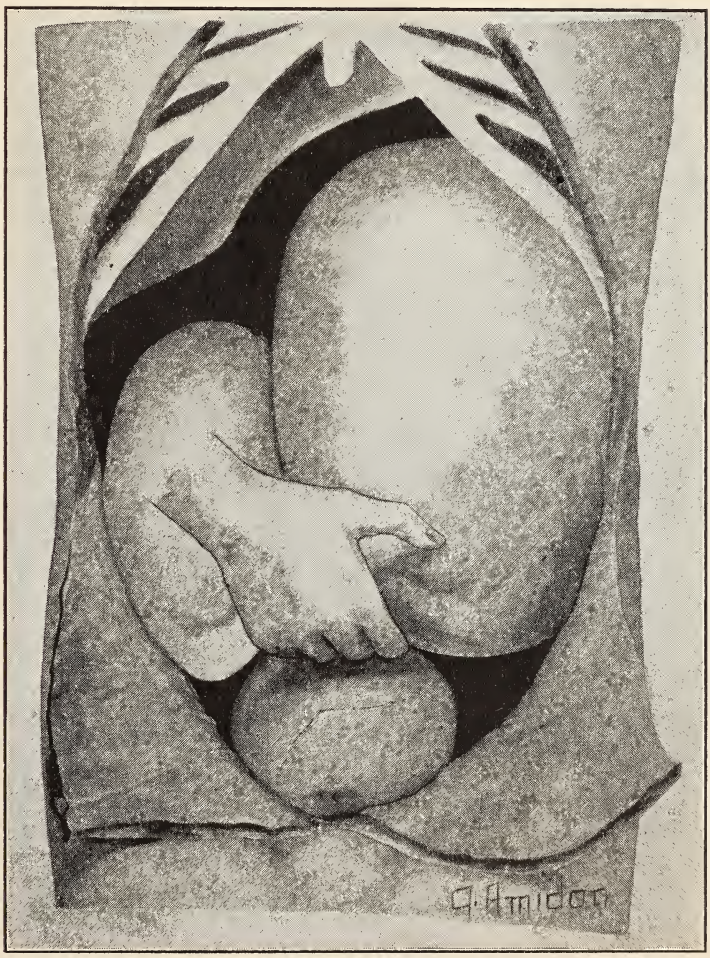
bilicus. The pain at this time was so severe that he could not pass any urine, and he was put to bed and hot plates were applied to his abdomen during the night by the people where he lived. He suffered severe pain during the night, and the next morning about 6 A. M. one of my colleagues was called and found him in pronounced shock, with severe pain, and having passed a few ounces of bloody urine. At this time He had been catheterized just before I saw him, and the nurse obtained fifty-six ounces of bloody urine, mostly blood. The diagnosis of a ruptured bladder was made and laparotomy was done immediately. The abdominal cavity was filled with blood, clots and urine, and an opening about three inches long was found in the posterior wall of the bladder. After clearing the cavity of clots, blood and urine, and mopping it



SHOWING EXTENT OF RUPTURE

efforts were made to overcome the shock, and because of his condition rapidly becoming worse he was sent to the hospital, where I first saw him about twenty-four hours after his injury. At that time he complained of severe pain and a constant desire to urinate but could not. He was badly distended, and the abdominal muscles were hard and tense. He was hiccoughing and retching almost continually. The temperature was 99 degrees F., pulse 140. with hot saline sponges, the intestines were packed off, the edges of the wound were trimmed and the rupture sutured with two layers of Lembert sutures. A cigarette drain was placed over the line of suture and the abdominal incision closed. A rubber catheter was left in the bladder through the urethra. The patient was returned to bed and was given normal saline per rectum continuously after the Murphy method. His pulse rate steadily dropped until it reached

106 at the end of the first twenty-four hours, temperature 100 degrees F., respiration 26. He passed twenty-eight ounces of clear urine through the catheter during the first twenty-four hours and was taking stomach and washed his stomach every two hours. The distention and vomiting were overcome in about twelve hours. The third day he passed thirty-six ounces clear urine. The dressing was done and the



POST-MORTEM FINDINGS

liquid nourishment. The second day his temperature ran from 98 degrees F. to 100 degrees F., pulse 108 to 115, respiration 22 to 26, and he passed thirty-two ounces clear urine. During the second night he vomited three or four times a light greenish fluid, and the morning of the third day was quite badly distended through the upper abdomen. I suspected a dilatation of the drainage was removed and was free and clean, no discharge or odor, the abdomen was soft, and there was no distention. His temperature was 99 degrees F., pulse 108, respiration 22 at 9 A. M. He was not vomiting and was taking some albumen water; his general appearance was good. That evening about 6.30, while the nurse was out of the room, the patient got out of bed,

walked across the room and back to bed. His abdomen quickly became badly distended, the pulse rate increased to 140, and the respiration to 40. He vomited a large quantity of dark fluid with a very offensive odor. His stomach at this time was again washed and the condition was relieved for a short time, but he gradually became worse, though his stomach was frequently washed and ice caps were applied, and died within twelve hours. The post-mortem showed his bladder wound healed completely, no peritonitis, no obstruction, but an immensely dilated stomach. The findings aside from the stomach condition were perfect. In my efforts to account for this man's dilated stomach, I have been unsuccessful in drawing any conclusions.

These conditions, while rare, are not hard to contend with when an early diagnosis has been made, and in cases when it is not possible to make a definite diagnosis, I believe we will accomplish more by doing early exploratory operations than by waiting.

Discussion

Dr. J. J. Reycraft.—Regarding the paper just read, there is one criticism I have of the treatment of the case specified in the paper that I think should have been done. I think the man should have had the catheter placed in the bladder and have allowed it to remain there. He states in the paper that the man voided so much urine,—seemingly allowed him to do so himself. It seems to me in the case of a ruptured bladder there could be no harm in allowing the catheter to be placed permanently and left for a time, until the bladder healed. In a case like that, I think the surgeon is very timid indeed to allow the case to die without having made a secondary exploration. It seems to me that something was wrong inside, and I believe surgeons should not fail to make a second operation in case something is going wrong inside. It is well enough to look in it again, and then we may be able to accomplish probably nothing, but I think we are very timid in making a second operation. They rest their case on that primary operation. I think also that doctors as a rule do not take seriously some cases until the time has gone by for an operation to be successful. I believe very much that when you find a case that shows symptoms that might point to gravity in a case, that we are all often too prone to procrastinate in those cases. I think surgeons, as a rule, instead of being censured for going in too quickly and too frequently, don't do it enough. If this case had been taken early in hand, and the operation made probably some hours earlier—we know the bad results of delayed operations. What I want to emphasize is I think we ought to go to work at these cases much earlier, if we have failed in one case. This man was distended, as was said in this paper, and I think it would have been good surgery not to wait for the post-mortem to find out the results, but I don't see any harm in going back in a second time and re-doing our work if necessary.

Dr. Frederick W. Robbins, Detroit.—One of the interesting points in the discussion of Dr. Reycraft is that he criticized the operator for not doing the things that he absolutely did do. I think it was stated in the paper that the retention catheter was employed.

Dr. Reycraft seems to forget that post-operative dilatation of the stomach is no uncommon thing. When treated by systematic lavage recovery usually takes place, whereas further operative measures will only increase the trouble.

Dr. Dean Loree, Ann Arbor.—I would like to ask Dr. Reycraft what conditions he would expect to find at the time of the second operation he proposes, and having found them, what he would do

Dr. A. S. Youngs, Kalamazoo.—Dr. Reycraft does not take into consideration that it requires some time before consent can be obtained for even a primary operation, neither does he consider the fact that it's difficult to obtain consent for a second operation.

I especially noted Dr. Reycraft's remarks, when he stated that a hurried operation was indicated, also that there was considerable delay in the case.

Dr. Stone stated very plainly that he operated within one hour from the time of injury. As it is utterly impossible to make people submit to an operation, I would feel that Dr. Stone operated at the earliest opportunity, as he fully realized the gravity of the case.

Dr. W. E. Keane, Detroit.—I had one case of ruptured bladder last year, following an elevator accident. The porter of a hotel was caught be-

tween the elevator and shaft, and received severe crushing injuries of the pelvis. I saw him two hours after the accident with Dr. F. B. Walker, and rupture of the bladder was diagnosed,—the patient complaining of great pain and the catheter withdrawing a bloody urine.

The tear in the bladder wall was very severe, but was securely closed by a purse-string suture The patient was put to bed after a catheter drain was inserted. This drain caused irritation and was removed two days later, the patient afterwards voiding urine without any trouble. What I thought was a point of interest was the fact that the bladder wound healed by first intention, and the urine remained clear during the six weeks of the man's illness, though he died of general sepsis. The fracture of the pelvis was a particularly bad one, the pubic bones being separated and the ilium being cracked in several places.

Dr. Reycraft.—There seems to be some misunderstanding about what I wish to do in this case. Distinctly in this paper the reader states that the man voided so many ounces of urine a certain time after the operation. Now if he made a mistake, he probably put in a catheter, as he said, but he says afterwards that man passed urine, so he must have retracted the catheter; if he did, there was some censure, because of the amount of urine he voided himself. As far as the rupture is concerned, will say it is well healed and there is no result from the operation.

Now regarding the dilatation of the stomach, you gentlemen that might seem to see this matter in this way,—a man's stomach gets dilated after a rupture of the bladder. I see no connection between a rupture of the bladder and the filling in of the abdominal cavity with blood and urine, with dilated stomach afterwards, and if the stomach was dilated probably it was a free dilatation, and probably it had always been there, but there is no relation whatever. In this case, if the patient is going to die from over-distention, why not go in a second time?

As far as the people are concerned regarding the operation, I feel that we are not dictatorial enough in these cases, and we ought to dictate more than we do, and if we cannot get an operation in a reasonable time, it is time for us to withdraw from a case, and we have not any trouble. I tell the people that there is a danger in this matter that can be corrected surgically, and it is up to any one of us to go right ahead and tell these people, and not stand back. As far as I am concerned, I think this operation should have been made earlier than it was. I believe the consent of those people could have been had earlier. I believe it was inevitable that the operation should be had, that the man's life might be saved, and I don't see the reason for this criticism, and I would rather think that the man did not die from dilatation of the stomach so much as he died from absorption from the abdominal channels, and whether sufficient drainage was made I do not know, but I know when I get a case that does not do well after operation I go right back again and correct anything that may be necessary. I don't let any man die on me that I can do a second operation on.

Dr. Stone (closing).—I am very sorry if I was misunderstood by Dr. Reycraft or any members present. I think I clearly stated in my paper that at the time of operation the catheter was inserted, and took it for granted that the members present knew that the urine passed was drained through the catheter.

As far as getting permission to operate is concerned, I did not see the patient until twenty-four hours after he had been injured, and operated about one hour after I saw him. If Dr. Reycraft, or any other man, can get permission to do a laparotomy and do it in less time than that, I would be glad to see it.

In doing a secondary operation, where you have already made a diagnosis of acute dilatation of the stomach, I feel that the trouble is simply going to be made worse by your operation. Of all the operative procedures which have been tried before for relief of acute dilatation of the stomach, I have never heard or read of any which have been successful. The only results which have ever been obtained in treatment have been accomplished by frequent lavage, and this was applied in this man, and had control of his stomach in the first time. He was operated two days, got up, and had dilatation.

Dr. Reycraft.—What was the cause of the dilatation?

Dr. Stone.—I cannot say.

Dr. Reycraft.—Had the gastroenterostomy been any good?

Dr. Stone.—He did not have any.

Dr. Reycraft.—What caused the dilatation in the first place?

Dr. Stone.—I think probably it was caused in the first place as a post-operative condition; what caused it before the operation probably caused it again. He was suffering much from shock, probably due to a general low power of resistance, and he got up, and the second dilatation he had I think was caused by the exertion.

LESSONS FROM THREE HUNDRED CATARACT EXTRACTIONS*

WALTER R. PARKER, B. S., M. D.
Detroit, Mich.

The lessons which I shall endeavor to present in this paper are the results of experience obtained from over five hundred operations for the extraction of senile cataract. The figures given, however, are from the last three hundred cases heretofore unpublished, cases which were operated as follows: combined extraction, 220; simple extraction, 52; in-the-capsule extraction, 28.

I shall give in detail the method of operating which this experience has led me to pursue. Not that it is the only method to adopt, but because on the whole it has proven the most satisfactory. I shall speak only of the method of operation, leaving the management of all complications out of the question.

PREPARATION OF THE EYE

I assume that the preparation of the patient is much the same as that employed by other operators, so I shall not speak of it. In the preparation of the eye there is still much diversity of opinion, but the introduction of bacteriological examination is greatly reducing the number of methods of procedure.

Organisms are continually gaining entrance to the conjunctival sac, and for this reason the ophthalmic surgeon always operates in a septic area. Infection, however, rarely takes place, as the lachrymal secretion mechanically washes away the organisms, and a definite amount of resistance is offered by the epithelium itself. In fact, the conjunctiva is so highly resistant to infective processes that virulent organisms may remain on its surface without infection taking place. It has been proven experimentally that such organisms as tubercle bacillus, staphylococcus and pneumococcus cannot attack the conjunctiva without a break in the epithelium. For this reason we cannot limit our prevention against infection to those cases showing signs of inflammation, but must carefully prepare every case. The conjunctival sac should be irrigated three times daily with boric acid solution, for two or three days before the time of operation, and a few drops of a 25% solution of argyrol instilled night and morning. There is great difference of opinion concerning the efficiency of argyrol, and it may be that a solution of boric acid might do the work equally well.

On the morning of the operation, the contents of the sac should be carefully squeezed out, then the lids, cheek and brow washed with soap and water, alcohol and bichloride of mercury solution, and a pad and bandage applied, which should not be removed until the time of operation, when the conjunctival sac should again be very freely irrigated and the lashes carefully cleansed with a pledget of cotton saturated with bichloride solution 1-5,000.

In order to determine whether the bandage will produce an excessive discharge or not, the eye may be bandaged in for a period of twelve hours. If, on removing the bandage, the discharge is found to be

* Read at the Forty-fifth Annual Meeting of the Michigan State Medical Society, Bay City, September 28, 29, 1910.

excessive, the operation should be postponed, a bacteriological examination made, and proper treatment instituted. This bandage test, if made at all, should be run at least two days before the operation, as the number of organisms in the conjunctival sac may be greatly increased, and because of a restless night the patient made nervous at the time of the operation.

CORNEAL INCISION

The corneal incision should be large and include a conjunctival flap, unless the Smith Operation is to be done, when the incision is corneal. One of the most common errors in the operation for the extraction of a cataract is the smallness of the incision. This necessitates excessive pressure and manipulation to deliver the lens, in some cases only the nucleus being delivered, the corticle matter being left behind.

TREATMENT OF THE IRIS

Whether an iridectomy shall be done or not, can be decided only in the individual case. If the iris is active, well dilated, and shows no tendency to prolapse after the lens has been removed, I think an iridectomy should not be done. If the iris is somewhat stiff, however, or shows a persistent tendency to prolapse after the lens has been removed, I think an iridectomy should be done. In the first instance, previous to the extraction of the lens, and in the latter, after the lens has been removed.

TREATMENT OF THE CAPSULE

In all my early cases I used the cystatome to rupture the anterior capsule, varying the tear according to the many methods suggested by different writers. In the last 150 cases, however, I have used the capsule forceps, and I have no hesitation in saying that it is a great improvement over the cystatome. Possibly it is a little more difficult to use, but there is nothing about its use that any experienced operator could not easily master. Introduce the forceps well into the anterior chamber, allow them to open, pushing the iris back if need be, and grasp as large a piece of the anterior capsule as possible. After the use of the forceps the lens can be delivered with less pressure, and the liability of leaving considerable amount of corticle matter in the anterior chamber is greatly diminished.

CORTICLE MATTER

Perhaps there is no step in the operation for the extraction of cataract where experience is of more help than in the expression of the corticle matter left after the nucleus has been removed. While it is not always possible to remove all the corticle matter, there can be no doubt that any considerable amount left is apt to cause an iritis. The aim, therefore, should be in each case to remove as much of it as possible. For this purpose the anterior chamber can be irrigated to good advantage, the kind of irrigator being a matter of personal preference.

TOILET OF THE WOUND

The necessity of freeing the iris from the angles of the incision, and washing away of any corticle matter that may be between the lips of the wound, is most important. Silver replacers should be used for this purpose. I have four replacers in every cataract set, and do not enter the anterior chamber a second time with the same instrument until it has been sterilized.

AFTER TREATMENT

If an iridectomy has not been done, the eye should be examined at the end of twenty-four hours, and if there is any tendency to prolapse, an iridectomy done immediately. If the combined operation has been done, the eye should be left undisturbed until the third day.

EXTRACTION OF THE LENS IN THE CAPSULE

The work of Major Smith, in India, whose extractions are numbered by the thousands every year, has attracted worldwide attention and admiration.

The reports from India of the results of this operation are somewhat at a variance, many of them leading one to believe that the operation had 100% of perfect results, even when numbered by the thousands, while others are very much more moderate.

There can be no doubt of the beneficial results that would follow a complete removal of the lens in its capsule, if the operation could be performed without serious injury to the eye. That it can be done in some cases, under favorable conditions, is certain, but just what these conditions are has not as yet been determined definitely by those surgeons who are doing this operation in America. The more enthusiastic claim it is suitable for all forms of cataracts, except traumatic and juvenile, while others are disposed to believe the immature cataract offers the best field for its use. If confined to immature cases, it will be a great blessing to those patients whose cataracts are progressing equally in both eyes, and who, while incapacitated for work, would still be unfit subjects for operation by our present methods.

My own experience covers thirty-five cases, twenty-eight of which were tabulated for this report. Four cases were attempted and the operation abandoned. The operation is more difficult to perform than the old one, and should not be undertaken except by those who have had considerable experience in cataract extraction. The most striking result following the extraction of the lens in the capsule is the large number of cases having little or no reaction following the operation. In my experience but two cases, or 7.1%, showed even slight reaction, while in but one case was the reaction marked. The percentage of cases showing loss of vitreous was greater than in those done by the old method, but in no instance was the amount lost of sufficient quantity to produce any serious after-results.

This experience is far too small for me to draw any definite conclusions, and I am unable to tell in any given case whether the lens can be torn from its attachment without undue pressure, and delivered without great risk of loss of vitreous. In the cases where I have failed to deliver the lens in the capsule and resorted to the old method, no serious results followed. I believe, therefore, for the present, if both eyes are equally cataractous, the vision so poor in both eyes that the patient is totally incapacitated for work, we should attempt an early extraction in the capsule. In all cases where the lenses are mature, or hypermature, we may attempt the extraction in the capsule, but abandon it if the case turns out to be one in which the capsule cannot be easily torn from its attachment, and proceed immediately with the old operation.

Discussion

Dr. Eugene Smith, Detroit.—After the kind introduction by Dr. Parker, I am a little bit too modest to say much about cataract extraction. In 1875 I read my first paper on cataract to this Society, and I have discussed several papers since. Very strangely, I was preparing a paper upon the same subject and along the same channels for this meeting, based upon over eight hundred extractions of cataract, when learning that Dr. Parker was to read a paper on the subject, together with the fact that I was at the time a little busy, I neglected mine. I have the notes, however, for future use. There is very little that is new, and yet there is a great deal to be said about the ordinary extraction of cataract; so much to be said, in fact, that it is utterly impossible in the time at our disposal to go into the entire subject. I agree with all that the doctor

has said, except as to the use of boracic acid. Gentlemen, boracic acid is not worth a continental as an antiseptic. I use it, but I use it as a placebo principally. When it comes to the question of preparing an eye for operation, I depend largely upon bichloride of mercury or argyrol. There is much to be said about the condition of the eye-ball, the surroundings of the eye, and the character of the lachrymal secretions before operation. Until a man shall have been properly instructed and has had considerable experience in these cases, he had better not operate for cataract. The incision itself, whether it be an ideal incision or is a little ragged, if it be large enough is sufficient. I have seen just as good results from an imperfect incision when sufficiently large, as from an ideal one. A most important point—I am sorry the doctor did not dwell more upon it—is the fact of the angles of the incision when an iridectomy has been made. The prolapse of the angles of the iris in the angles of the wound, which always occur when an iridectomy is made, should always be relieved with spatula, as the doctor says. The bichloride solution I use freely. Elderly people, the ones coming to us with senile cataract existing for some little time, have frequently a greater or less degree of chronic conjunctivitis, which should be treated before operation. I wish to remark that I have made seven operations by the Major Smith method (extraction in the capsule), and that is *seven* too many. In each instance I have had striated keratitis. I had, in five cases, prolapse of the vitreous, and in each case I had a most outrageous deformity of the pupil—the pupils were drawn up. There did not seem to be a prolapse of the iris in the angles of the incision, but there was a considerable deformity of the pupil, as though the whole iris had been stretched upwards. It does not offer any advantages over extraction of the anterior capsule, in my opinion.

It was in 1890, I think, I presented my capsule forceps to this Society, calling attention to the fact that removal of the anterior capsule, with the forceps, does away with the necessity for subsequent discission of the capsule, in a large majority of cases, and discission of a secondary cataract is not a harmless operation. My forceps were primarily intended for simple extraction, which is the operation I much prefer, but I use them in all cases, without or with iridectomy.

Dr Flemming Carrow, Detroit.—I have done a large number of cataract operations, both at my clinics at the University Hospital and in China, where I operated for a number of years. I presume it would be well within bounds to place the number at six or seven thousand. This number is large enough to warrant me in assuming a little confidence in discussing this excellent paper.

I have used Dr. Smith's forceps; I probably use them in about half the number of cases, and whenever I have used them, have always been pleased with the results. My opinion is that in a great majority of the capsular opacities which follow the extraction of cataract, the opacities occur in the posterior part of the capsule, and of course removal of the anterior part of the capsule will not prevent opacities forming in the posterior part. That has to be dealt with afterwards. It certainly gives us free access to the lens to tear away as much of the anterior capsule as possible by Dr. Smith's method in the use of his forceps, and my operation is practically the same as Dr. Parker's. In the preparation of the eye I have always been in the habit of using benzine. I get as good and pure an article as I can, and prepare my eye, believing more in that than in the solution of boracic acid, although I use that also. My experience is very limited in the removal of the lens in its capsule, and it is not particularly pleasant. I think patients who have come to us for restoration of vision have a right to expect that we shall adopt that operation which gives the largest chance for good results, and the largest chance is certainly in removing the lens, without removing the entire capsule, on account of the danger of loss of vitreous and other complications.

Dr. Parker (closing).—Just one word. I don't want Dr. Carrow to think, or any one to think, that I have done 500 cataract operations in five years. I have done 542, I think, in the past eighteen years.

In regard to boracic acid. I felt as Dr. Smith does in regard to boracic acid until I saw a remarkable line of experiments carried on in Germany. It does not make much difference if you use boracic acid or water. If you wash out the eye three times a day, it is sterile for two days.

The next Annual Meeting of the Michigan State Medical Society will be held in Detroit September 27-28, 1911

THE NON-OPERATIVE TREATMENT OF VARICOSE VEINS OF THE LEGS*

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The term "varicose" is usually applied to a more or less permanent dilatation of the veins due to changes in their walls.

Miller found in 108 operative cases in the Halsted clinic that the varices appeared in one-third of the cases before the thirtieth year and in two-thirds before the fortieth year.

Males are oftener affected than females. Pregnancy exercises an influence independent of the mere mechanical interference of the gravid uterus with the pelvic veins, as varices often appear in the legs during the first months of gestation.

Arteriosclerosis is undoubtedly an important factor, and in fact the varicose process itself is distinctly of a sclerogenic character, corresponding to the same process in the arteries. Chronic phlebitis, which produces structural changes in the venous walls, may be the cause. Nervous diseases in which there is a loss of vasomotor control may play a part in the etiology. Some of the exciting or localizing causes may be gravity in the erect posture; lack of perivascular support in the saphenous and other superficial veins; interference with the return flow by constantly repeated contractions of the deep muscles and aponeurosis of the calf; weakness of the valves (trauma). By forcing the valves, the mechanical factors may lead to chronic degenerative changes, which destroy the elasticity of the veins, bringing about a compensatory phlebosclerosis.

Some of the secondary lesions produced are: sclerosis of the arteries, on the skin marked trophic changes, with eczema and varicose ulcers, usually appearing on the inner lower aspect of the leg above the malleolus. These are more apt to appear in individuals in middle life compelled to labor while standing, and multiparous women are prone to them.

The Trendelenburg test shows the condition of the valves.

Delbet demonstrated the influence of valvular insufficiency in increasing the intravenous tension by the use of a canula.

A rupture of the varicose veins sometimes threatens life, the bleeding being very severe on account of the valvular impotency. Subcutaneous ruptures cause ecchymosis and extensive extravasations, and severe pain if the deeper veins rupture.

Lymphangitis and phlebitis often occur as a result of injury or infection in the lower limbs of these subjects having varicose veins; hence great care should be taken of any slight wound or excoriation. When these two conditions are present the tendency to superficial redness and edema is noticed. There is pain and temperature, and the adjoining glands enlarge and sometimes suppurate.

Varicose ulcer often accompanies varicose veins in the advanced stages, and is generally situated on the inner and lower aspect of the leg but may extend almost around the limb. It may begin as a scratch or blister brought about by itching and eczema. Infection soon takes place, and ulceration progresses rapidly on account of the lowered resistance of the tissues. In

*Read at the Forty-fifth Annual Meeting of the Michigan State Medical Society, Bay City, September 28, 29, 1910.

syphilitic subjects, the ulcers are circular and scooped out in appearance. The sensibility of the skin around the ulcer is usually diminished.

The eczema, which accompanies varicose ulcers, is usually dry and scaly or else very moist in character, and the pruritis is very marked. In old cases, the subcutaneous tissues become so thickened as to simulate elephantiasis.

Neuralgia often accompanies the advanced varicose state, due to the development of peri-neural sclerosis and intra-neural varices.

TREATMENT

We have seen numerous cases which were operated on by good surgeons, and the results were far from being satisfactory. A great many patients who have varicose veins cannot be operated on, on account of associated constitutional conditions; e. g., diabetes, nephritis, cardiac lesions, arterio-sclerosis, great obesity, etc. There is another large class who will not be operated on (washerwomen, laborers, etc.), as they cannot afford to rest for the required length of time to effect a cure, so it is up to the physician to use other means. In early cases the proper hygienic care of the limbs with the help of an external support will enable the patient to be fairly comfortable. The skin should be cared for by frequent bathing, using hot water rather than lukewarm, avoiding garters and constricting garments.

For the past fifteen months we have been using a boot composed of Unna's paste and ordinary gauze bandages. The paste is composed of the following: gelatine white, 2 parts; zinc oxide, 2 parts; glycerin, 3 parts, aqua, 6 parts.

This is made over a water bath, first completely dissolving the gelatine, then stir in gradually the zinc oxide until it is thoroughly incorporated in the mixture, and last of all add the glycerin.

Gelatine increases the plasticity of liquids with which it is incorporated, and it has unquestionable adhesive properties. Gelatine has been accused of causing tetanus, and in order to obviate this risk it should be thoroughly sterilized at a temperature of 120 degrees C. An inch strip of adhesive plaster is placed around the limb below and above, to mark the margin of the boot. The hot paste is painted on with a brush all over the limb from the lower to the upper adhesive strip, and the gauze bandage two and one half or three inches wide is applied from below; the gauze is wound snugly once around and overlapped and cut by the surgeon while the assistant does the painting. Two or three layers of bandages are applied in this way and the boot allowed to dry. An ordinary stocking and shoe may be worn over the boot and the patient return to work.

If there is much excretion from an ulcer, a small window may be cut through the boot in a few days and the ulcer dressed.

The application of the paste in this manner is aseptic, healing and soothing to ulcers and varicose eczema, and gives support to the vessels better than a stocking or elastic bandage.

The boot may be worn from two weeks to two or three months, depending upon the condition present.

It is surprising how rapidly healthy granulations spring up from foul and even gangrenous ulcers under this treatment.

We have a record of fifty cases of varicose veins treated by this method with good results. In twenty-five cases varicose ulcers were present, in four cases varicose eczema, and in two ruptured varicose veins. The varicose ulcers ranged in size from that of a nickle to a silver dollar. The eczema was very severe; the ruptured veins bled freely, and recovery seemed to be complete in all the fifty cases.

CEREBRO-SPINAL MENINGITIS*

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Cerebro-spinal meningitis may be divided into three groups: 1st, the tuberculous form; 2d, the epidemic form; and 3d, simple cerebro-spinal meningitis, due to a considerable number of organisms, among which is the pneumococcus. In a study of eighteen hundred non-tuberculous cases Churchill found 80% were due to meningococcus (the diplococcus meningitidis intracellularis), 10% to the pneumococcus, and the remainder to various organisms, such as streptococcus, staphylococcus, colon bacillus, typhoid bacillus, influenza bacillus, etc.

Tuberculous meningitis is almost always secondary, the bacilli finding their way to the brain through the lymph channels or blood currents from lesions elsewhere in the body. For a long while it was not known in what way the meningococcus gained entrance to the brain, but it has been recently quite definitely proven that the micro-organisms enter the system by way of the tonsils and nasopharynx. It is thus regarded as an inhalation disease conveyed to the meninges by the lymphatics. This is not surprising when we consider how many other infections, such as scarlet fever, rheumatism, and even appendicitis, enter the body through diseased tonsils and adenoids. In his experimental work upon monkeys Flexner has been able in a good many cases to produce epidemic cerebro-spinal meningitis by spraying the nostrils with a culture of the meningococcus.

Tuberculous meningitis is much more common among children than adults, and except during epidemics of cerebro-spinal meningitis is the form of disease most commonly met with. Children are susceptible to it at all ages, though it is rare in the first few months of life. The prognosis is always bad, few cases of recoveries of authentic cases being on record.

Tuberculosis of any kind is almost always fatal in infants, and such cases as have come under my observation have usually terminated in meningitis. A couple of years ago I had a case which I thought was going to prove an exception to the rule. An infant, whose father was in an advanced stage of pulmonary tuberculosis, was born in June perfectly healthy. In December, while giving the mother a Von Pirquet cutaneous test, I gave the baby one also and obtained a positive reaction. At this time the baby was six months old, weighed fourteen pounds, and was to all appearances as robust and healthy a baby as I ever saw.

Anticipating possible infection, the baby was kept in the open air twenty-one hours a day from fall until spring and I frequently found it out-of-doors in its carriage when the thermometer was ten degrees below zero. The baby did well until February, when it developed a slight hoarseness. It continued doing well, however, in a general way until March when it stopped gaining in weight and lost the splendid appetite which it had had throughout the winter. In May it developed an indefinite fever. Two or three Widal tests were negative, and I soon became convinced that the baby had acute tuberculosis. At the

* Read before the Tri-County Medical Society, December 1, 1910.

end of six weeks of this indefinite illness, which was attended with a constant temperature of from 100 to 102 degrees, the infant developed signs of meningitis and died three weeks later.

In a number of instances in infants under two years of age, I have diagnosed typhoid fever, which cases later terminated in tuberculous meningitis.

The onset, especially in infants, in a good many cases is exceedingly insidious. The presence of tuberculosis in infants is frequently overlooked for a long time, and, on the other hand, the diagnosis of tuberculosis is often made where the disease is not present. It is especially in infants and children under three years of age that the skin test is of great diagnostic importance. Latent forms of tuberculosis, or lesions that have been healed for years, are responsive to the Von Pirquet test, so that reaction is the rule in adults; but in young children, and especially infants, in whom time for healing processes has not elapsed, a reaction to the cutaneous test is indicative of active tuberculosis.

In some acute cases both in the adult and child, however, the body is unable to respond to the cutaneous test. This is especially the case in tuberculous meningitis; so that failure to react in a case of meningitis does not exclude the possibility of a tubercular origin.

I will not tire you with an enumeration of the usual symptoms of tuberculous meningitis. A few diagnostic points may be emphasized. Kernig's sign is of considerable importance. Twenty-five years ago Kernig first called attention to the now well-known sign of meningitis, which consists of an inability to extend the knee when the thigh is held at right angles to the body. This has been tested in thousands of cases of meningitis, and it has been found present in about 90% of cases of tuberculous meningitis, and in about 95% of cases of epidemic cerebro-spinal meningitis. In any disease the appearance of this sign suggests the involvement of the meninges. A negative test, in any case, does not exclude meningitis, but a positive test is of great value. The blood count in tuberculous meningitis is more apt to show a leucocytosis than in other forms of tuberculosis, a leucocytosis of from twenty to forty thousand not being unusual. The total count as well as the differential count, however, does not permit us to differentiate tuberculous meningitis from forms due to other micro-organisms.

The most important method of diagnosis is lumbar puncture. The per cent. of cases in which bacilli are found in the spinal fluid varies greatly. Some laboratories report finding the bacilli in not more than forty or fifty per cent. of cases, while others find them in practically every case. A good deal seems to depend upon the skill and patience of the bacteriologist. The spinal fluid is usually clear in tuberculous meningitis, while in all other varieties it is usually more or less cloudy. In all cases wherein the diagnosis of meningitis is in doubt, a lumbar puncture should be made, as very valuable information may be thus obtained. In fact, in many cases it is impossible to make a certain diagnosis in any other way.

The epidemic form of cerebro-spinal meningitis, or the form due to the diplococcus intracellular meningitidis, which also occasionally appears sporadically, has acquired new interest in the last two years from the wonderful results following the use of Flexner's Serum. Flexner was assistant to Welsh at Johns Hopkins Hospital for a good many years, and when the Rockefeller Institute was opened he was made director. Since that time some splendid work has emanated from this institution, not the least of which has been the production of the anti-meningitis serum.

The mode of onset and symptoms of epidemic meningitis vary greatly, some cases dying within twelve or fifteen hours after the onset. In June I was called to a man who returned from work at six o'clock, and while eating supper vomited and fell over on the floor unconscious. He was picked up and put upon a sofa, where I saw him two hours later unconscious and extremely delirious. He had no temperature, his pulse was slow, pupils were widely dilated, and his face very red, which with the sudden onset of the symptoms suggested belladonna poisoning. I left him a prescription for bromide and chloral, a couple of doses of which I thought would quiet him for the night. About midnight I was notified over the telephone that they were unable to make him swallow any of the medicine. I returned to the house, and found that it had taken three or four men to hold him in bed during my absence. It required a grain and a quarter of morphia hypodermically to quiet him, when I found that his pulse had risen to about 100; his rectal temperature was 99½ degrees. The pupils were of course contracted from the morphia. Being entirely unconscious from the time he fell over at the supper-table until his death, thirty-six hours later, he was unable to make any statements as to his subjective symptoms. In the morning I removed him to the hospital. During the day he had but little temperature; his pulse varied from 90 to 100°. He was in a stupor or busy delirium constantly. Kernig's Sign was present. A lumbar puncture was performed, and the diplococcus meningitidis found in the fluid withdrawn. I at once telegraphed to Chicago for some fresh Flexner's Serum which arrived the next morning. The patient, however, was *in extremis* and died at ten o'clock.

The mortality of epidemic meningitis is usually exceedingly high. In the New York epidemic of 1904 it was 75%. Holt reported that in 1906 of twenty cases under one year in his hospital wards, not one recovered. All observers agree that it is almost invariably fatal in infancy. In Flexner's first report in 1908, of three hundred cases of the disease in which the serum was used the mortality was less than 30%. In Belfast, during a recent epidemic, the general mortality outside of the hospital was 75 to 80%, whereas in the hospital where the serum treatment was used the mortality was 26%. The earlier the serum is used the more pronounced is the benefit. In six cases under two years of age, where the serum was used on the first, second, or third day, all recovered; whereas in twelve cases wherein it was used later than the seventh day, over 50% died. One of the most striking results following the use of the serum is the drop in temperature, which sometimes becomes normal in forty-eight hours. Along with the subsidence of the fever there is an improvement in all the other symptoms, such as cessation of pain and hyperesthesia, a clearing of the mental state, and ability to take food. Flexner's Serum is not anti-toxic, but bactericidal in nature. Its effect can be observed by examining the cerebro-spinal fluid daily with the microscope. After the first injection the number of organisms in the fluid outside of the cells rapidly decreases, the intracellular organisms become less in number and finally disappear altogether.

About six weeks ago I was called to see an infant five months old which had never been ill until a few hours previous to my visit, when it vomited and refused its food. Its temperature was 104°, and the child was restless and irritable. The next day the same symptoms were present, and the infant seemed at times to be delirious. It was evidently in considerable distress, and moaned more or less of the time. A rather distinct Kernig Sign was present, especially in the left extremity. There was occa-

sional vomiting, great restlessness, a rapid pulse, and a constant temperature of from 102° to 104°. There were no convulsions. I examined the ear-drums under an anesthetic and found them normal. The presence of a leucocytosis of forty thousand and a negative Widal test excluded the possibility of typhoid fever. There were no symptoms or physical signs of pneumonia. The pupils were contracted and photophobia seemed to be present. Babinski's Reflex, or extension of the great toe on irritating the sole of the foot, was present. A lumbar puncture was performed, and the meningococcus found in the spinal fluid. On the evening of the third day fifteen cubic centimeters of Flexner's Serum were injected into the spinal canal. In four hours the child had the first quiet sleep since it was taken ill. Its temperature the next morning had dropped to 101°, and the next evening was normal. All the symptoms rapidly ameliorated, and the child made a speedy recovery from an illness certain to prove fatal without the help of Flexner's Serum.

In every case of suspected meningitis, a lumbar puncture should be made as early as possible. The operation is a very simple one, and with due precaution is unattended with risk. As it seems to cause but little pain, some operators place the patient astride a chair, over the back of which he leans. A better position, I think, is lying on the side with the knees well flexed upon the abdomen, and the spine made as convex as possible.

The third or fourth lumbar space is the one usually selected for the puncture. The spinal cord terminates opposite the second lumbar vertebra, and so cannot be injured. A line joining the highest points of the iliac crests passes over the third lumbar spine in children, and between the fourth and fifth lumbar spines in adults. The point of election in children is midway between the third and fourth spines. The needle meets with only cartilaginous resistance if properly inserted, and should be introduced about three-quarters of an inch. It is easy to tell when the spinal canal is entered, whereupon a free flow of fluid follows. In adults the needle is introduced midway between the fourth and fifth lumbar spines one-fourth of an inch to one side of the median line, and is passed forwards, inwards, and upwards. Should the needle come in contact with bone it should be withdrawn for a short distance and passed in at a little different angle. If the fluid does not come, suction should not be used. It is important that too much fluid be not removed at the first puncture, the usual amount removed being from fifteen to thirty cubic centimeters.

In a recent case of great interest, I removed an ounce and a half with most beneficial results. A boy eight years of age was taken sick with symptoms suggestive of typhoid fever, which diagnosis was made by two different physicians. At the end of two weeks he became delirious, and a few days later unconscious, so that when I saw him at the end of the fourth week he had been unconscious and unable to take any nourishment whatever by mouth for ten days. He had become greatly emaciated; his pupils were dilated, his abdomen markedly excavated, the muscles of the neck were stiff, and the head retracted most of the time. His pulse was rapid, and breathing of the Cheyne-Stokes variety. A pronounced Kernig Sign was present, and also the Babinski Reflex. Recognizing that symptoms of compression were present, whatever the etiology of the disease, I performed lumbar puncture, and removed an ounce and a half of clear fluid. At the same time the boy was directed to be fed, by means of a catheter introduced through the nose into the stomach, four ounces of peptonized milk and two drams of whiskey

every four hours. Examination of the spinal fluid was negative, which led me to believe that the case was one of epidemic cerebro-spinal meningitis in which the organisms had already disappeared from the spinal canal. Improvement began to manifest itself within a few hours after the lumbar puncture, and the child slept quietly for the first time in many days. Within four days consciousness began to return, and at the end of a week he began to take food through the mouth. At the end of two weeks he left the hospital as a convalescent.

The usual amount of serum injected at a time is thirty cubic centimeters, the only exception being in the case of young babies, such as my case, when only fifteen cubic centimeters are used. It is recommended that the injection be repeated once every twenty-four hours for four days; but in a number of instances, as in my own case, complete recovery has followed one dose of the serum. Flexner believes that the injection should be repeated at twenty-four hour intervals as long as diplococci are found in the film preparation of the cerebro-spinal fluid. It is a more certain test than are cultures. In cases in which the diplococci disappear early from the fluid, the injection should usually be repeated daily for four days. In certain severe cases injections should be given twice in the first twenty-four hours. In every case of suspected cerebro-spinal meningitis, lumbar puncture should be performed as early as possible. If the fluid obtained is turbid, from twenty to thirty cubic centimeters of the serum should be injected at once into the spinal canal, without waiting for the bacteriological examination of the fluid withdrawn. Cloudy or purulent fluid as a general rule shows meningococci. If it should show other organisms, such as pneumococci, no harm will have been done. Cerebro-spinal meningitis due to the pneumococci is invariably fatal. If the fluid drawn is clear, it should be carefully examined for meningococci and tubercle bacilli, for although clear fluid generally shows only tubercle bacilli, meningococci *are* sometimes found in clear fluid both in the early and advanced stages of epidemic cerebro-spinal meningitis.

I wish, in closing, to emphasize the great value and importance of lumbar puncture, 1st, for purposes of diagnosis; 2d, to relieve symptoms of intra-cranial pressure as in the case mentioned above; and, 3d, for the injection of anti-meningitis serum.

Benefits of Membership in the Michigan State Medical Society and its component County Medical Societies:

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IMMEDIATE VERSUS DEFERRED OPERATION IN INTRA-ABDOMINAL HEMORRHAGE DUE TO TUBAL PREGNANCY*

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Detroit, Mich.

Recently a few prominent gynecologists have been bold enough to advocate deferred operation in all cases of ruptured tubal pregnancy where intra-abdominal hemorrhage is a factor to be reckoned with. Deferred operation in every case has been condemned by many surgeons, but each individual operator appears to be guided largely by his own experience. Statistics seemingly of value only to the side presenting them, have been offered pro and con, and the question as to time of operation is far from settled. The arguments advanced by men who favor deferred operation are as follows:

1. Seventy per cent. of cases are tubal abortions, with loss of blood not greater than that of an ordinary miscarriage.

2. The tubal rupture practically never involves the ovarian or uterine vessels.

3. Cessation of hemorrhage can be determined by the pulse and by frequent hæmoglobin estimations.

4. From an experimental standpoint, hemorrhage ceases in from 15 to 20 minutes.

5. Many operators have found after opening the abdominal cavity that no active bleeding could be demonstrated, and that hemorrhage was started up only by their own manipulations.

6. Operation upon a patient after a severe hemorrhage adds shock to shock, and immediate operation usually results in a fatal termination.

7. The surgeon is able to do the operation under more favorable circumstances, viz., better surroundings (hospital), competent assistants and nurses, proper instruments, etc.

8. Statistics show that not more than five per cent. of patients die if left alone, while in 1176 operated cases from twenty-five clinics, the mortality rate was eight per cent.

9. As a matter of fact, immediate operation is rarely ever carried out.

10. The treatment which will produce the highest percentage of recoveries is as follows:

Absolute rest in one position for forty-eight hours; avoidance of examinations; morphin, hypodermically; application of heat to ensure normal body temperature; administration of normal saline solution by enteroclyses or hypodermoclyses, as it has been experimentally demonstrated that these procedures do not excite fresh hemorrhage; strychnin or digitalis may be cautiously given; then, as soon as the patient has recovered from the shock, she may be removed to a hospital, where operation may be safely performed.

The older view, however, and the one still adhered to by the large majority of abdominal surgeons, is for immediate operation. The arguments of these men are as follows:

1. How can we be sure when hemorrhage has stopped?

2. How do we know that another hemorrhage is not imminent?

3. It is a surgical principle that whenever bleeding endangers a patient's life, it should promptly be controlled if possible.

* Read at the Forty-fifth Annual Meeting of the Michigan State Medical Society, Bay City, September 28, 29, 1910.

4. Hemorrhage from a ruptured tube is no different in type from hemorrhage in any other part of the body, and just as a surgeon should interfere to arrest hemorrhage in any other part of the body, he should do so in cases of this kind.

5. A pregnant tube is a menace to a patient's life and should be removed as soon as diagnosed.

6. Waiting for the patient to rally in cases of shock from hemorrhage is a dangerous procedure.

Vineburg of New York City compares cases of hemorrhage from a ruptured tube to a post-operative hemorrhage: "What operator would fear to reopen the abdominal cavity and arrest a post-operative hemorrhage because the patient was in deep shock from just having been subjected to a lengthy and serious operation? Most of us know what would happen should we wait for the patient to rally."

At the meeting of the American Gynecological Society, held at Philadelphia in May, 1908, the following opinions upon this subject were expressed:

Prof. August Martin.—"I do not think we need to be in a hurry if bleeding comes to a standstill, but if bleeding continues, then we should follow the old surgical rule to interfere to stop it."

Dr. J. Pfannensteil.—"Operate at the earliest possible moment, but without precipitation."

Dr. J. Wesley Bovee.—"I believe from what experience I have had, modified to some extent by my reading, that in every case of ectopic pregnancy, an early operation is indicated, and no case is safe without it."

Dr. A. F. Currier.—"I believe that all these cases are surgical, and just as we would stop bleeding in any portion of the body after making a diagnosis that bleeding exists, it is equally proper that we should stop bleeding of this character."

Dr. Brooks H. Wells.—"I would advocate, except in the rarest instances, that operation be done as soon as possible, provided always that a competent operator can be obtained."

Dr. Joseph Taber Johnston.—"All things considered, provided you have a skillful operator and good surroundings, where emergency surgery is necessary, the sooner a ruptured tube is taken out the better."

Dr. Wm. Gardner.—"I think Prof. Pfannensteil sounded the keynote when he said, operate but without precipitation. I confess to be on the side of those who would wait in the case of a very dangerous situation, and would watch the case most carefully before deciding to operate."

Dr. A. L. Smith, Montreal.—"There is no doubt, whatever, in my mind, but that these patients should be operated upon as soon as suspected, because a woman may bleed to death in an hour or two after rupture takes place."

Through the courtesy of Dr. Wm. F. Metcalf, I am permitted to report a few interesting cases. During my five years of service with him, he operated upon thirty-five cases of tubal pregnancy with a mortality of 2.8 per cent. I wish to add three cases of my own, making a total of thirty-eight cases. All operations were immediate or as nearly so as was possible. These cases may be summarized as follows:

	CASES
Unilateral tubal pregnancy	36
Bilateral " "	1
Interstitial "	1
Ruptured	29
Unruptured	9
Pregnant for the first time	6
Last preg. 1 year previous to present preg.	3
Last preg. 2 years previous to present preg.	4
Last preg. 3 years previous to present preg.	1
Last preg. 4 years previous to present preg.	2
Last preg. 5 years previous to present preg.	3
Last preg. 6 years previous to present preg.	1
Last preg. 7 years previous to present preg.	2
Last preg. 8 years previous to present preg.	1

	CASES
Last preg. 9 years previous to present preg.	1
Last preg. 10 years previous to present preg.	1
Last preg. 11 years previous to present preg.	1
Last preg. 14 years previous to present preg.	1
Duration of pregnancy (estimated) 6 weeks.	9
Duration of pregnancy (estimated) 2 mos..	16
Duration of pregnancy (estimated) 10 weeks.	2
Duration of pregnancy (estimated) 3 mos...	9
Duration of pregnancy (estimated) 4 mos.	2
Cases in which no period was missed.....	9
Cases in which 1 period was missed.....	3
Cases in which 2 periods were missed.....	4
Irregular flowing throughout pregnancy.....	8
Constant flowing throughout pregnancy.....	14
Operation performed:	
Simple salpingectomy.....	12
Resection of tube.....	2
Salpingo-oophorectomy	14
Abdominal hysterectomy and double salpingo-oophorectomy	10
Patients in deep shock at time of operation..	3

Hysterectomy with bilateral salpingo-oophorectomy was performed in ten cases, because of complicating disease of the structures removed.

As a detailed account of each case would be very tedious, I will report only the ones possessing especial interest, viz., the three which were found to be in a state of collapse when first seen.

Case No. 46, 1903. Mrs. M., age thirty-three. Occupation, housewife. Family history, one sister died of pulmonary tuberculosis. Past history, typhoid at seventeen. Menstrual history, negative up to time of marriage. Marital history, married at eighteen. One miscarriage seven months after marriage. Two children, now thirteen and five years old respectively. Sepsis after last child.

Present illness: menorrhagia for past six weeks. Was taken suddenly with sharp pain in right lower quadrant of abdomen and fainted. She was seen first by Dr. Metcalf in deep shock, pulse almost imperceptible, and was sent to Harper Hospital and operated immediately. Patient required almost no anesthetic. Hypodermoclysis and strychnin given. She rallied and recovered.

Another interesting feature of this case was that one year later a pregnancy developed in the left tube. She was again sent to the hospital, where this tube was removed. Patient recovered.

Case No. 134, 1908. Mrs. C., age thirty-nine. Occupation, housewife. Family history and past history, negative. Marital history, two children, last one eight years ago. Menstrual periods regular up to time of operation. Last menstrual period four weeks ago.

Present illness: patient was taken with sharp pain, in right lower quadrant of abdomen, and fainted. When I saw her, about two hours later, her temperature was subnormal and her pulse rate was 160. Pelvic examination revealed a large accumulation of fluid in the Cul-de-sac of Douglas, pushing uterus forward against the pubis. She was sent to the hospital and operated upon immediately. Hypodermoclysis and stimulation with strychnin and digitalis given during and subsequent to operation, but she did not respond, and died five hours later.

Case No. 221, 1908. Mrs. P., age twenty-eight. Occupation, housewife. Family history and past history, negative. Menstrual history, negative up to time of marriage. Marital history, one child two years ago. No sepsis, gonorrhea or other pelvic inflammation.

Present illness: history of pregnancy of about two months. While lifting child she was suddenly seized with severe pain in lower abdomen, and fainted (about 3.00 p. m.). Dr. Metcalf saw her at 5.00 p. m., in a state of collapse, and sent her to Harper Hospital (a short distance), where operation was immediately done, no anesthetic being necessary, as patient was nearly moribund. Hypodermoclysis and hypodermics of strychnin and camphor-ether were given

while preparation was made to do blood transfusion, but unfortunately the patient died before the vessels could be connected.

It is in cases like these where opportunity for argument as to time of operation will be found. I think very few, if any, would dispute the contention that in 35 of these cases, a few hours' delay as to time of operation would have any serious bearing upon the final result. But the question presents itself, could all three of these cases have been saved by deferred operation? One in three was saved by immediate operation. I believe all three would have died had operation been delayed. Death in these cases was not due to operation, but occurred because operation could not be done soon enough after rupture had taken place.

In regard to the question of enteroclysis, hypodermoclysis and intravenous infusion before and after operation, for ruptured tube, the writer would say:

Before operation.—Nature's methods of controlling hemorrhage are blood clotting and reduction of blood pressure. So why increase blood pressure and force out any clot that might form in a bleeding vessel by filling up the circulatory system with saline solution?

After operation.—With enteroclysis and hypodermoclysis, the benefit to the patient depends upon the absorption of the fluid by the circulatory system, and given a patient in as deep shock as two of ours were would be utterly useless. Intravenous infusion will give better results but should be cautiously given, and the patient should be watched for acute dilatation of the heart. All of these procedures are much inferior to direct transfusion of blood.

I would like to suggest a definite plan which I propose to carry out when another case of collapse from a ruptured tubal pregnancy presents itself. This plan would be especially applicable if the patient has lost so much blood that immediate operation appears dangerous, and waiting for the patient to rally seems equally hazardous.

The suggestion is as follows:

The patient is to be kept absolutely quiet until instruments, dressings, etc., can be brought to her home. An assistant will first prepare for transfusion of the patient with blood. In the meantime, preparations for the operation will have been completed. When the vessels are connected, blood will be allowed to flow, and when the radial pulse becomes perceptible, operation may be begun. Increase in blood pressure will probably start bleeding afresh, but this will make little difference now, as the bleeding points will shortly be controlled. The transfusion will be continued until the patient's pulse shows marked improvement or until the donor suffers from loss of blood. When the operation is finished the blood transfusion will have transformed the patient from an extremely hazardous risk to a fairly good one.

Dr. G. W. Crile, of Cleveland, has demonstrated that in over eight hundred cases hæmolysis did not take place during or after blood transfusion, and also that a consanguineous donor is not necessary. All that is necessary is that donor and recipient be healthy subjects.

Conclusions: 1. All cases of tubal pregnancy are surgical, and the safest treatment is early operation. A few hours' delay will, however, according to our records, make little difference in 92% of cases.

2. If rupture has taken place and if the patient's condition is good, she should be removed to a hospital and the offending structures excised without delay.

3. If the patient is in a state of collapse, she should not be removed to a hospital, but should be transfused with blood and operated upon in her own home.

Discussion

Dr. R. R. Smith, Grand Rapids.—It seems to me that the question really restricts itself to the cases that present marked shock at the time they are seen. All other cases are acknowledged to be operable, surgical cases, and should, of course, be so treated.

This is a question that has been before the profession for several years, since Rodd, of Cleveland, brought the matter before the American Gynecological Society. I was present at the meeting which Dr. Hewitt cites. The idea was in some ways new to most of us, and yet it has been our experience that we are apt in actual practice to handle these cases rather differently from the way ordinarily prescribed.

It must be acknowledged that most cases of extrauterine pregnancy recover from the first attack. This is readily seen by the statistics of every man. Thirty-five of Dr. Hewitt's cases were beyond that stage: they had already passed through the primary hemorrhage successfully and were operated later. There were only three of his cases that were really seen at the time when the question of operation came up.

I believe we must consider a number of factors in handling these cases if we expect the best results. If when a case is seen the degree of shock is so severe that we feel an operation at that time will send the patient over the brink, it is better to wait and take a chance on the hemorrhage stopping and operate later, rather than to go into it at that time. I believe a great many cases are rushed to the hospital and operated on and are lost because they are already in collapse when by waiting some of them might have been saved. If, on the other hand, we believe that the patient will stand a short, rapid operation and the circumstances are favorable, it is well enough to do it. I call to mind three cases in which the patient was received during severe shock. They all recovered, but I feel certain that had I operated immediately I would have lost one case. So we must discriminate in these cases seen in severe shock.

Dr. John Bell, Detroit.—I would like to add a word to the discussion. The point must not be forgotten that in this process of delay, of waiting, of not operating, which some men advocate, there is always the possibility of there being pus in the pelvis, a lot of blood is poured out there, and one is very liable to have a sepsis which will develop into abscesses or possibly peritonitis may develop. For one I am in favor of operating always and never trusting to nature to repair the condition.

Dr. Smith.—Perhaps I did not make that quite clear. I refer simply to cases in shock. All other cases are operable immediately when seen.

INTERPRETATION OF GROSS FINDINGS IN THE URINE*

WILLIAM E. KEANE, A. M., M. D.
Detroit, Mich.

For daily study and guidance in urologic diseases, the physician has no more valuable aid than the clinical observation of the urine in the so-called "two glass" test.

As the laboratory and microscope may not always be available for the busy practitioner, he must necessarily be able to interpret the gross findings in the urine if he would combat successfully pathologic changes as they appear in the urinary tract. It is very often the disregard of these simple methods that makes the dissatisfied sufferer seek advice from other sources.

That such routine is overlooked, is evident from the number of these patients who will exhibit surprise upon the urine being examined by this method, and say that it is the first time any one ever looked at the urine notwithstanding a course of treatment lasting several months.

*Read at the Forty-fifth Annual Meeting of the Michigan State Medical Society, Bay City, September 28, 29, 1910.

If the general practitioner wishes to handle his venereal diseases, he is conscience bound to use all ordinary means at his disposal, and certainly these means are most simple.

This method of analysis consists in the collection of the urine in suitable clean glass tubes, minute observation of the freshly passed specimen, and interpreting what is seen. The nature and quantity of the ingredients held in suspension will be suggested. The original location of such ingredients will in many instances be accurately pointed out.

However, laboratory analysis together with observation of the patient's physical condition, should positively substantiate gross findings for final diagnosis.

While this provision may leave but a small place for this method of study, still as a practical daily guide in office work it may be used in seventy-five per cent. of our cases without further confirmation from microscope or laboratory. For this reason it will often give the first important clue that leads to the ultimate diagnosis and prove a most valuable means of judging the progress of these cases from day to day.

TECHNIQUE

The patient should be instructed to present himself at the office from four to six hours after his last urination, and pass from twenty-five to fifty centimetres of urine into two glass tubes provided for this purpose. Irritative inflammations of the bladder and deep urethra will of necessity modify this rule.

Specimens carried to the office in unclean drug bottles are unfit for this method of observation.

The freshly passed specimen having been secured, should now be held between the observer and a strong light and intently scrutinized for any abnormal appearances. The smallest mucus floater or tiny speck has its significance to the experienced eye.

The beginner will naturally make mistakes in his interpretation, but recourse to the laboratory to confirm or refute his inference will soon make him expert in his conclusions. It will be possible for him to say, "This urine is phosphatic," or, "This is a shred from a stricture," or, "This pus is from the kidney," or, "This mucus is from the prostate," and so forth and so on. The ingredients suspended in the urine are of organic or crystalline matter. The former are always the more important.

Of the various kinds of crystalline matter that cloud the urine the phosphatic group is the most common, and will be distributed in both tubes because of renal origin.

This cloudiness is very characteristic; the white crystal-like flakes gravitating to the bottom quickly or slowly according to the density. If the phosphaturia is extreme the second tube will often contain gritty masses of crystals, which are expelled with the last drops of urine.

Next in order in the crystalline group are urates and uric acid, which are rarely found in the freshly passed specimen. Urates produce a dirty reddish cloud, which slowly precipitates to the bottom of the tubes.

Cystin or oxylates rarely cloud the urine. If a few drops of acetic acid be added to the phosphatic urine there will be instant clearing after effervescence.

If the patient has been taking santal oil or copaiba the urine will again cloud in a few moments, in a less marked degree. This step should be routine in all urine that is cloudy, to satisfy ourselves that the turbidity is not produced by phosphates.

The first tube collected will exhibit urine as found in the bladder plus what it washes from the urethral walls during its passage. The second tube will contain the urine as found in the bladder without the admixture of any sweepings from the urethra during its passage. Pus in large quantities, blood

clots or dense clouds of phosphatic crystals which settle in the bladder, will only come away in the second tube with the last drops of urine following muscular spasm. The urine of the second tube may also be contaminated by the so-called piston-stroke spasm, which will squeeze pus from a prostatic abscess or congested blood from the vesical neck, by muscular contraction.

After having ascertained the presence or absence of crystalline matter, the tubes should be investigated with regard to organic cloudiness. If both tubes remain cloudy after acetic acid has been added, we may conclude the cloudiness is due to blood, pus, bacteria, or chyle.

Blood appears in the urine in two forms, namely that in which corpuscles are present and that in which coloring matter alone is present.

When the tubes are holding a urine that is colored a bright scarlet, the inference must naturally be that the source of the bleeding is the lower urinary tract. If only in the first tube, we must suspect the point of origin to be the urethra or prostate gland.

The greater the amount of bleeding, especially if its source is the kidney, the darker is the color in the tubes. However, it does not follow that dark-colored blood invariably comes from the kidney, as a prostate that is large, or a stricture that is of small calibre, may retain the blood in the bladder for a sufficient time to allow oxygenation to take place.

When the tubes are clouded with blood and the color is evenly distributed, and when such is the case at repeated examinations, it suggests most strongly that the bleeding is of renal origin. We must keep in mind, however, that coloring matter alone may stain the urine in a similar manner. To definitely fix the source of bleeding will require the aid of the microscope, as stated before, but many valuable hints may be taken from the gross appearance.

The examiner should approximate the quantity of blood present. He should observe if density is increased by exercise, and whether it be constant or intermittent. The greatest amount of hemorrhage is found, as a rule, with neoplasms and injury, but occasionally in acute nephritis or with tubercular ulcers the bleeding is very severe. If the quantity of blood is increased by exercise, stone in the bladder or kidney may be looked for.

Pus must be interpreted with regard to color, quantity and gravity. When alkaline fermentation takes place, pus cells undergo a change and run together, forming dense clouds of coagulum. Such a mixture is commonly found in the urine of the patient suffering from chronic cystitis. This coagulated mass, which resembles semen, should not be mistaken for mucus.

The pus that sinks to the bottom in large amounts denotes alkaline fermentation, while it is noted that in the acid urine moderate quantities of pus will gravitate very slowly. These characteristics are more or less distinctive of pyelitis or cystitis respectively.

The heavy, sandy pus, of greenish hue, that settles quickly, is positive evidence of pyelo-nephritis. Ropy pus, while more commonly found with alkaline conditions of the bladder, may occasionally be present in the urine of one that has a large abscess pocket in the kidney that drains intermittently.

The gross observation of the urine will prove of most value in the management of our gonorrheal patients. Vigilance here will sometimes anticipate a beginning epididymitis by noting the peculiar cloud of exudate that appears in the second tube, before any other objective or subjective symptom appears.

The purulent urine of acute gonorrheal inflammations is, as a rule, free from shreds, but as the inflammation subsides and be-

comes localized little scabs are formed that wash down with the stream of urine. As the pus decreases and the shreds appear, improvement will be daily more marked. Each and every shred has its story to tell the observer. The thick pieces of irregular size are generally indicative of stricture or chronic inflammation. The threadlike strings that quickly settle, weighed down with pus, are from the anterior urethra. The so-called "tadpole" shred has a globular head with a long cotton-like tail, and arises from a follicle of the deep urethra. The fleecy film, which suspends near the top, originates in the prostatic sinus, and may contain prostatic cells, bacteria, spermatozoa and mucus.

The heavier mucus seen only in the first tube, with an absolutely clear second tube, indicates trouble in the anterior urethral glands. Epithelium appears floating in the urine as a dark or light-colored dust, depending on the amount present.

Besides the recognition of the individual shreds, one rapidly learns to note other changes in its character. Whether the urine is sparkling or flat, or of high or low specific gravity, is determined at a glance.

Bacteria, when present, will be found in both tubes. It produces a dirty sluggish color, with an odor that offers confirmatory evidence.

A patient suffering from chyluria will pass a urine that is distinctively indicative of his trouble. The milky looking mixture is seldom if ever seen in any other urinary condition.

The value of this method of study, as before stated, will depend on the experience of the observer. If one will persist in its daily use, he will become rapidly proficient in distinguishing gross pathological products as they appear in the urine, and from such analysis derive much benefit. Such watchfulness will keep him in close touch with each new change in his patient's condition, and posterior complications may often be arrested before a prostate has been diseased or a testicle made sterile. It will invariably aid in localizing the predominant lesion, indicate the appropriate treatment, and suggest the favorable moment to begin irrigations of the deep urethra and bladder.

It is the common disregard for these simple routine methods that accounts for badly handled cases that go from one doctor to another. It is the desire of the writer, therefore, in describing the above technique, to inculcate if possible a more systematic routine in the examination of a class of diseases whose treatment is of vexatious moment to all general practitioners.

101 Fort Street W.

The next Annual Meeting of the Michigan State Medical Society will be held in Detroit September 27-28, 1911

The Journal of the Michigan State Medical Society

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Wilfrid Haughey, A. M., M. D., Editor, 24 West Main Street, Battle Creek, Michigan. The Society does not hold itself responsible for opinions expressed in original papers, discussions or communications.

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MARCH

EDITORIAL

Your Committee recommends, that on May first of each year the Journal of the State Society be discontinued to all subscribers and members in arrears and that such members be reported to the Secretary of the American Medical Association as "dropped for non-payment of dues."—*Report of Business Committee unanimously adopted by House of Delegates.*

LEGISLATIVE MATTERS

THE Committee further recommends that the House of Delegates do not concur in the report of the Committee on Legislation and Public Policy as regards the assessment of physicians for the support of the State Board of Registration in Medicine.—*Report of Business Committee unanimously adopted. Proceedings of House of Delegates, Sept.* 28, 1911, *Journal M. S. M. S., Nov.* 1910, *page* 564.

Dr. Abrams, Houghton, stated that he believed the Business Committee, in reporting unfavorably on the recommendation of the committee on Public Health and Legislation, were laboring under a misapprehension, and desired to have a discussion of the matter.

Moved by Dr. Varney, Wayne, that this be made a special order of business for to-morrow morning. Supported and carried.—*Proceedings of House of Delegates, Journal M. S. M. S., Nov.*, 1910, *page* 566.

Under the Special Order of Business the Business Committee made the following report by its chairman, Dr. Southworth, Monroe.

To the House of Delegates:

Your Committee again reaffirms its recommendation made in its first report—that the recommendation of the Committee on Legislation and Public Policy insofar as it pertains to this Society's adopting such measures that will induce our Legislature to pass the necessary laws whereby the individual physician will be annually assessed a certain sum to support the State Board of Registration, believing that it would be an injustice to the profession of the State to demand of them the necessary funds for the support of this Board, whose activities are devoted to the interests of the people.

We do endorse and commend the recommendation of our President that this body exert its influence to induce our Legislature to pass the necessary laws appropriating sufficient funds from the State Treasury for the maintenance of this Board.

Moved by Dr. Vaughan, Wayne, that the report of the Business Committee be accepted and adopted. Supported and carried.—*Proceedings of House of Delegates, Sept.* 29, 1910, *Journal M. S. M. S., Nov.*, 1910, *page* 567.

The Committee on Legislation and Public Policy by Dr. Walter H. Sawyer, Chairman, presented draft of bill to secure State support for the Board of Registration in Medicine.

The matter was discussed at length, and it was moved by Councilor Spencer that the Report of the Legislative Committee be adopted and the bill as presented be approved by the Council. *Minutes of Meeting of the Council, Jan.* 11, 1911, *Journal M. S. M. S., Feb.*, 1911, *page* 87.

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Pursuant to the foregoing instructions a bill, No. 235, was introduced at Lansing by the Legislative Committee through Representative Reynolds. This bill provides for an appropriation for the support of the Michigan State Board of Registration in Medicine, besides more clearly defining the term Practice of Medicine. The bill is in committee—not yet having been reported out and printed.

We are informed that the Michigan State Board of Registration in Medicine also will introduce a bill identical with the one approved by the State Society through its House of Delegates, Council and Legislative Committee, except that it provides for renewal of license, with fee.

Read the letter on page 146.

FORTY-SIXTH ANNUAL MEETING

THE Forty-sixth Annual Meeting of the Michigan State Medical Society will be held in Detroit, Wednesday and Thursday, September 27 and 28, 1911.

The section secretaries report that applications for places on the program are coming in rapidly. If any one wishes to read a paper at this meeting he should send the title of his paper to the secretary of the section before which he desires to read it, not later than June 15.

By provision of our By-laws, papers read at our meetings are the property of the JOURNAL. Upon publication, authors will be given one hundred reprints free. Each paper will be limited to fifteen minutes and should be ready for publication, and handed to the secretary of the section as soon as read. The stenographers will be instructed not to take the discussion on papers not so handed in.

It is requested that an abstract of the paper, *not to exceed one hundred words*, be furnished the secretary of the respective section on or before July 1.

No paper the title of which has not been sent in by June 15 can be read at the Annual Meeting in September, unless acceptable to the secretary of the section.

The section secretaries, with their addresses, are: Dr. R. Parmeter, Fine Arts Building, Detroit, Michigan, Secretary of the Section on Obstetrics and Gynecology; Dr. John H. Crosby, Otsego, Michigan, Secretary of the Section on General Medicine; Dr. R. C. Stone, 308 Ward Building, Battle Creek, Michigan, Secretary of the Section on Surgery, Ophthalmology and Otology.

MAINE MEDICAL JOURNAL

WE have received three issues of the *Maine Medical Journal*. The editor is Dr. F. Y. Gilbert, of Portland. Each county is represented upon the editorial staff. We are pleased to welcome this journal to the field. This makes twenty-three states represented by official journals owned and published by the State Medical Society, and the thirty-first State Medical Society to have an official journal.

The first three numbers have valuable original articles, and equally valuable County Society reports. We congratulate the editor upon his attractive journal, and the Society upon its venture, knowing that the result will be more active interest in organization matters.

MEDICAL DEFENSE

WE are frequently asked: Can one continue a member of the Michigan State Medical Society and not subscribe to the defense feature? Must a member have the Medico-Legal Committee defend him in case of a suit? If a member is carrying protective insurance with a commercial company and a suit arise, must he have both companies coöperate in the defense?

A member is not compelled to have the Society defend him if he should be so unfortunate as to have occasion for medical defense. He can, if he choose, defend himself or have any other company do so.

First and foremost, the defense plan of the Michigan State Medical Society is a matter of public Education. It is a well-known fact that suits for Medical Malpractice are frequently brought, not because of any actual malpractice, but with the hope of obtaining some easy money,—some money that the plaintiff does not have to work hard and earn. These suits are, it is true, brought many times by people who have not had perfect results, but no doctor can promise perfect results in all cases, and the law does not expect them from him.

Knowing these things as they do, commercial companies have been organized to provide protection to the doctor from such suits. By doing this work on a wholesale

plan, so to speak, these companies can do it at a very small rate, and have something left over for profit. This is made possible by the necessity of briefing the law but once, then keeping the brief up to date, and engaging attorneys by the year.

Malpractice suits are expensive for the individual doctor to defend, because of the cost of this brief, and because of the fact that the successful lawyer can and does put in a healthy charge for his work. Malpractice suits are a detriment to a doctor in many ways besides the expense of defending them,—they are a poor advertisement, and a great annoyance.

The Michigan State Medical Society feels that it is about time the public knew the meaning of Medical Malpractice as it is understood by the courts, and believes that when such time arrives, there will be less malpractice suits. When the class of lawyers who usually have charge of Medical Malpractice suits learns that all, or nearly all, of the doctors of the State, especially those who are in any way responsible financially, are protected by an adequate and competent insurance against such suits, they will not be brought. This then brings the whole question down to one of education.

We must educate the doctor to know what the law and the courts require of him, —what the law and the courts understand as malpractice. We must also teach the public when they are entitled to damages for malpractice, or, rather, when they are not entitled to damages, for they are quick enough, or their lawyers are, to find the cases in which they should have redress.

The most efficient way to carry on this educational crusade is to provide all the doctors possible with a working defense. Nothing will teach the public and the malpractice lawyer this lesson so well, or so rapidly, as personal experience. If would-be victims are protected, and are victorious in court a few times, there will be a noticeable reduction of these suits, and in coming years malpractice suits "for revenue only" will be almost unheard of.

With this understanding in view—with the desire of educating the public and the physician, not to mention our friend the lawyer, and with the incidental idea of providing defense in the present, when it is needed, to those of our members who may be so unfortunate, the Michigan State Medical Society adopted a plan of Medical Defense, which at the Bay City Meeting was made a committee work of the Society.

The dues of the Society are now three dollars per year. Two dollars of this goes to the Journal, and to pay the running expenses of the Society, and one dollar is set aside for the work of the Medico-Legal Committee. This money is to be used to defend our members who need or wish defense, and through this defending of our members do we hope to educate ourselves, and those of our patrons who may want balm for real or fancied neglect, or injury.

This whole thing is a philanthropic move, a public benefaction, and costs each of us only one dollar a year. None of us care for this dollar so much as for the lasting benefit it must surely be to the whole medical profession, and also to the poor misguided mortals who are often led reluctantly into these suits to their own later mortification and regret. We should be sorry if this feature of our Society work were the means of keeping any one out of the Society, and preventing his membership in the American Medical Association.

We know that at present our defense committee does not have a wide reputation as being able to give adequate defense to any of our members who need it, but they have only been working one year, have made an enviable record, and with the best of legal talent retained by the year, as they have, there is every reason to be-

lieve that the time is not far distant when our members will have full confidence in them,—to such an extent as to discontinue the protection they are now carrying with other companies. In the meantime we need the moral and financial support of all our members. We do not require them to bring cases which might arise to this committee to defend, but we promise that if they do they will receive the best service the committee is capable of giving. We know that in a sense of security, and in a knowledge of a good work well done, our members will feel more than repaid for their extra dollar.

DUES—DUES—DUES

The requirements of the Post Office Department are that all subscriptions to Monthly Periodicals be paid within four months. The By-laws of the Michigan State Medical Society provide that malpractice cases arising while a member is in arrears after June first will not be defended.

The House of Delegates at Bay City instructed the Secretary to cancel names of those in arrears from the mailing list of the Journal, on May 1, each year, and to report them to the American Medical Association as dropped for non-payment of dues.

These instructions are mandatory upon the Secretary-Editor, and if anyone fails to receive his Journal after May 1, he will have no one to blame but himself. During March the County Secretaries will send a statement to each member who has not yet paid, asking him to pay up promptly.

We are endeavoring to make the Journal worth the subscription price. The Annual Meeting this year will probably be the best and most largely attended in the history of the Society. Every member in good standing will be defended against malpractice suits if need be. These are some of the advantages of membership in our Society. Last year two doctors who were in arrears beyond the limit had malpractice suits threatened. *As our defense plan becomes more understood, especially by lawyers, the man in arrears will be the one selected for the honor of a suit—knowing that he is without defense.*

If you have not already paid for the year 1911, please do so. Last year there were 488 in arrears on September 1,—almost 25 per cent of our members, eight months in arrears.

This question of dues is similar to the preacher's sermon—always money—and we dislike it as much as he, but dues must be paid to keep up the work of the Society. If you have not yet paid, will you not send your County Secretary a check at once?

IN MEMORIAM

Dr. Isaac E. Randall was born at Luzerne, Warren County, New York, July 7 1845, and died in Bay City, January 20, 1911, after an illness of one week, of erysipelas. He commenced the study of medicine in 1862 in the office of an old family friend, and later attended the Albany Medical College. In 1864 he entered the surgical department of the United States army, serving as hospital steward and assistant surgeon, being stationed at Vicksburg, Little Rock and other places along the Gulf, being sent as far south as the Mexican line towards the close of the war, and being present at numerous battles.

After the war ended he returned to the Albany Medical College, where he completed his course, and a year later came to what was then the village of Wenona, in 1867, and has been engaged in the practice of medicine there continuously since that time. He was for a number of years division surgeon for the Michigan Central Railroad, and in that capacity became widely known to a large section of the State. In addition to being a member of the Bay County Medical Society he was also a member of the American Medical Association, and always took an active interest in the work of these organizations.

Dr. Randall was married to Miss Elizabeth Campbell, daughter of the first Presbyterian minister on the west side of the river, and is survived by his widow and

three children, Dr. Floyd E., of Bay City, Emmons, of Saginaw, and Mrs. Robert B. Eddy, of Bay City.

Dr. David Lewis Walmsley, Detroit, a graduate of Victoria University, Medical Department, Toronto, 1866, died January 22. Dr. Walmsley was a member of the Wayne County and Michigan State Medical Societies, and of the American Medical Association.

Dr. A. J. Ervey, of Wheeler, Michigan, a member of the Gratiot County Medical Society and of the Michigan State Medical Society, died recently. He was a graduate of Rush Medical College class of 1874.

John Fletcher Byington, A. B., M. D., Ophthalmologist and Otolaryngologist at the Battle Creek Sanitarium, died January 27, of septicemia. Dr. Byington was a graduate of the University of Michigan, 1897, and until its merger with the University of Illinois was Professor of Diseases of the Eye, Ear, Nose and Throat of the American Medical Missionary College. He was forty years of age, and leaves a widow and one small son. He was a member of the Calhoun County and Michigan State Medical Societies, the American Medical Association, and American Academy of Ophthalmology and Otolaryngology.

Dr. Giles B. Allen, of Charlotte, a graduate of the University of Michigan, 1867, died of heart disease at his home, February 5. He was formerly a member of the Eaton County and Michigan State Medical Societies. He served through the Civil War, has been Judge of Probate, and School Commissioner.

Dr. Edwin Gilmore Knill, a graduate of the University of Toronto, 1882, M. R. C. S., Eng., L. R. C. P., London, 1883, L. R. C. P. and L. R. C. S., Edin, 1883, formerly a member of the Wayne County and Michigan State Medical Societies, died February 10, of paralysis, aged fifty-six.

REPORT OF THE MEDICO-LEGAL COMMITTEE, MADE TO THE COUNCIL JANUARY 11, 1911

In view of the fact that this work is new for Michigan and its details not perfectly understood by all the members, it seems wise to publish a full account of the cases reported to the Medico-Legal Committee during the year, names and counties being purposely omitted. By our plan of organization under the By-laws, we are authorized to defray the cost of a general attorney, a competent local attorney (in trials away from the immediate vicinity of Detroit), and such court costs as may be charged against the defendant doctor. It is expected that the Executive Board and the local members of this Committee will aid in preparing the case for trial, by reconciling any local jealousy from which the case may have arisen, and that the interested physician will cooperate in all possible ways. To be entitled to this defense it is necessary that the individual be not in arrears for dues at the time when the cause of action arises, and to be certain of this for any subsequent year, he should pay before June 1st of each year. The effect of this mutual defense by the State Society is strongly prophylactic, and it is expected that only about one case in ten will go to trial. This means that about nine cases are "bluff" cases, threatened solely to avoid payment of a just bill, or in the hope of getting a little money from the doctor in settlement of unfounded charges of unskillful or negligent treatment, while perhaps one case has apparent merit enough to justify carrying it to trial.

When our plan was under consideration it was feared by a few that we were about to interfere with the sacred rights of the public by defending incompetent men. Our answer to this objection was that medicine was too far from an exact science to allow medical men to fairly prejudge the right or wrong of *legal* matters, hence the judge and jury alone were competent to try a man charged with civil malpractice. The Committee and our general attorneys are of the opinion that litigation is to be avoided whenever possible, and would urge members not to stir up trouble. When trouble comes, meet it boldly, but do not go out of your

way to find it. If you have a disputed bill, wait two years before you sue the account, and you will then avoid the possibility of a counter suit for malpractice. It is to be expected, occasionally, that the course of procedure determined upon by the Executive Board and their attorneys may not meet the approval of the interested doctor. There always remains to him, however, the privilege of having his own way at his own expense. "Defense" does not necessarily mean defense in court; it means the protection of the interests of the physician, and sometimes we can best aid him by keeping him out of court, even though he, at that time, thinks he wants to go. We have had one case (Case 10), where the defendant doctor settled a suit brought against him by withdrawing his own suit for fees. He consented to follow the advice of our attorney, apparently without approving it. There were no legal questions involved of importance to the rest of the profession, and he faced a very probable adverse verdict on the facts, hence this case *should* have been settled, first, on his account; second, in the interests of the Medico-Legal Fund, which we handle impartially on behalf of two thousand men.

The following cases were submitted to us during 1910:

1. Threatened in December, 1909, cause of action four years and two months before, ophthalmia neonatorum; defended by the Defense League of Wayne County, and expected to go to trial. (A minor retains his legal rights to sue until he becomes of age.)

2. Threatened case from which nothing further has been heard. Threatened prior to 1910, hence this fund not liable.

3. Suit started prior to 1910, suit for damages for assault; alleged that a physician embraced a female patient with sufficient warmth to cause an axillary abscess. This blackmail charge against the reputation of a well-known physician is outside the understood limits of our field, yet should, doubtless, have been defended, lest attorneys be encouraged to bring actions along these lines rather than as civil malpractice. The case has been tried with a verdict of no cause for action. Suit being started prior to 1910, this Committee could not handle the case.

4. Demand, through an attorney, for return of fee paid, on allegation of failure to completely cure. Nothing more heard from the case since reply by our attorney.

5. Suit begun, alleged non-union fracture case. Handled by the Committee and an Insurance Company. Not expected to go to trial: if tried, we will co-operate with the Insurance Company.

6. Suit arising from an attempt to remedy a facial deformity. Handled so successfully by our attorney that plaintiff consented to a final judgment of "No cause of action."

7. Threat, resulting from fracture case; fund not liable, because dues were in arrears at time cause of action arose. No subsequent report.

8. Suit threatened because of alleged improper treatment at confinement; fund not liable, on account of arrears for dues. (Cases like the two above will be handled by the Committee up to the point of trial, on written agreement covering expenses if the case goes into court.)

9. An emergency amputation of a boy's arm; compound fracture, great destruction of tissues, rupture of brachial artery. In the judgment of the doctor, life could be saved in no other way. Threatening letter from an attorney; no later report.

10. Counter suit brought as result of suit for fees, alleging needless attendance and induction of morphine habit. A case difficult of defense before a jury, from lack of evidence showing attempt to cure habit rather than cater to it. Plaintiff had testimony from another physician, who cured her of her habit by sanitarium treatment, to prove that for three years prior to attendance by defendant her condition required but about one visit per month. Plaintiff was also prepared to charge improper conduct on part of defendant, in various unprofessional ways. When found that this case could be settled by mutual withdrawal of suit, our attorney arranged settlement on this basis. Defendant dissatisfied, blaming the other physician for inciting the suit, and blames the Committee for the settlement, to which he agreed at the time. We feel that the interests of many other men preclude our taking up a medical quarrel and starting long, expensive litigation of uncertain or doubtful outcome when a compromise so favorable to the defendant could be arrived at without trial. The opposite course would have started a contest probably ending only in the Supreme Court. The defendant has lost a chance of vindicating himself, plus the money for which he sued; he is saved months or years of anxiety and a reasonable probability of great and permanent damage to his professional reputation from the notoriety. We ourselves took an M. A. degree in this vindication stuff about fifteen years ago, and have learned to our complete satisfaction that the only time for a medical man to fight is when he cannot help it.

"Defense" means "protection," and we can sometimes best defend a man by protecting him from bad advice and his own pugnacious inclinations. The Executive Board and General Attorney are unanimous on this point, and this policy will be followed so long as the responsibility of decision rests on our shoulders.

11. Suit, expected to go to trial at the April term of court. Alleged faulty diagnosis of injury about hip joint; a case with conflicting testimony, with the burden of proof on the plaintiff. A typical illustration of what this fund is for. When a physician is attacked, he must defend himself so far as the law and the facts offer defense.

Your Committee is gratified at the success of this first year. Of eleven cases handled, but one is expected to reach trial at the expense of the Fund, and we begin our second year with a surplus of about $1900. We believe that financially the plan is strong enough to defend any member who needs it, and hope to submit an equally good report at the end of 1911.

F. B. Tibbals, *Chairman.*

THE WASSERMANN TEST

Physicians wishing to witness the Wassermann test for syphilis may do so any Friday afternoon at the Detroit Clinical Laboratory. These tests are made only once a week, and Friday morning is devoted to standardizing regents and getting ready for the actual tests in the afternoon.

With the Detroit Clinical Laboratory now in our building, our members have an opportunity to familiarize themselves with the modus operandi of laboratory examinations much easier than by reading, and even if they do not intend to do such work themselves, a knowledge of the methods will aid them greatly in making better use of the laboratory.—*Wayne Medical Weekly.*

COUNTY SOCIETY NEWS

BAY

The regular meeting of the Bay County Medical Society was held Monday evening, January 9, at Dr. C. H. Baker's office, Crapo Block.

An amendment to the Constitution and By-laws was passed combining the offices of Secretary and Treasurer.

The paper of the evening was read by Dr. J. M. Jones, of Bay City, on the subject, "The Differential Diagnosis of Ulcer and Cancer of the Stomach, Appendicitis and Gall-stones."

The second meeting of the month was held on January 30. The President appointed Drs. J. W. Hauxhurst, D. F. Stone and John McLurg a committee who reported resolutions in respect to our late member, Dr. I. E. Randall, of Bay City.

Dr. W. R. Ballard, of Bay City, read a paper on "Intestinal Obstruction," which was well discussed.

RESOLUTIONS IN MEMORIAM

Dr. I. E. Randall

Whereas, It has been the will of Almighty God to take by death Doctor I. E. Randall,

Be it Resolved, By the Bay County Medical Society that we have been deprived of a venerable and highly respected member, whose ceaseless devotion to the arduous duties of his profession amounted to a willing sacrifice of his own personal health and welfare. Dr. Randall was one who had implicit faith in the principles he practiced, and he always sought to have them faithfully administered to his patients, never faltering in his own best efforts to have his aims accomplished.

His moral status was of the highest order, and his exemplary habits could well serve as a standard for emulation by all men. More words than would be appropriate for these resolutions would be needed to tell of his various virtues, but in this brief memorial we desire to express our sincere regret in the loss from our membership of Dr. I. E. Randall.

Resolved, That these resolutions be entered with the proceedings of this Society, that a copy be furnished by the Secretary to the wife and family of the deceased, and one also for publication in the daily papers.

(Signed),
J. W. Hauxhurst,
D. F. Stone,
John McLurg.

On Tuesday evening, January 10, the Program Committee of the Society arranged an informal dinner in honor of Dr. Winfield S. Hall, of North-

western University Medical School, on the occasion of his lecture tour in Bay City under the auspices of the Y. M. C. A., and all the physicians of the city were invited. About twenty-five or thirty were present and listened to an interesting response by Dr. Hall on the subject, "Educational Aspects of the Society Evil."

H. N. Bradley, *Secretary.*

EATON

Eaton County Medical Society met at Charlotte January 26th, and discussed an interesting program of clinical histories. This part of the program will hereafter be under the efficient supervision of Dr. F. J. Knight. Dr. Adams will give us an exhaustive discussion on diabetes at the next meeting. This meeting will no doubt be well attended, as it is generally known that the Doctor does nothing by halves.

A. H. Burleson, *Secretary.*

GRAND TRAVERSE

The regular meeting of the Grand Traverse-Leelanaw County Medical Society was held February 7, in Dr. Minor's office. Thirteen members were present. Minutes of last meeting were read and approved. Dr. J. F. Slepicks, of Suttons Bay, was admitted to membership in the Society.

It was decided to hold a public meeting in April for the purpose of stimulating interest in a hospital. A Committee was appointed to arrange for this meeting consisting of three members, Drs. Holdsworth, Wilhelm and Wells.

Dr. F. P. Lawton read a very interesting paper entitled, "Management and Medication of Broncho-pneumonia in Infants." This paper was followed by a general discussion.

The Society adjourned to meet next month in Dr. Holdsworth's office.

R. E. Wells, *Secretary.*

MARQUETTE-ALGER

The ninth annual meeting of the Marquette-Alger County Society was held at the Breitung House, Negaunee, on Tuesday night, December 13, 1910.

Dr. Richard Burke read a paper upon the use of bismuth paste in sinus troubles, and presented some interesting cases showing the efficacy of this method of treatment when persisted in, and in following of a proper technique in its use.

The discussion of this paper by many of the members present would indicate that it is a method of treatment of considerable value in selected cases.

President C. F. Moll in his address touched upon the subject of tetanus in the upper peninsula, and reported some cases occurring in his practice.

It was the opinion that this trouble was rapidly increasing in this district, and that every precaution for its prevention should be instituted at once in any person predisposed by an injury.

The following officers were elected for the ensuing year: *President*, V. H. Vandeventer, Ishpeming; *Vice-President*, H. M. Cunningham, Marquette; *Secretary and Treasurer*, H. J. Hornbogen, Marquette.

After the meeting, the Society was entertained at a banquet by President Moll, of Kenton.

Dr. George Barnett, "poet laureate" of the organization, after several months of preparation was enabled to read a limerick upon each member of the Society.

H. J. Hornbogen, *Secretary.*

MECOSTA

At a meeting of the Mecosta County Medical Society held December 4, the following officers were elected:

President, Dr. A. A. Spoor, Big Rapids; *Vice-President*, Dr. B. L. Franklin, Millbrook; *Secretary and Treasurer*, Dr. D. MacIntyre, Big Rapids; *Delegate to State Society*, Dr. G. H. Lynch; Alternate, Dr. L. S. Griswold.

Dr. W. T. Dodge read a paper on "Vaccine Treatment of Disease," which was followed by a general discussion of the members present, and brought out the fact that greater progress was being made by Mecosta County in the study and investigation of vaccine treatment than any other county in the State.

Before adjournment Dr. W. T. Dodge invited the Society to be his guests at a six o'clock dinner January 24. A motion to accept was carried unanimously. Meeting adjourned.

The Society was entertained with a six-course six o'clock dinner, January 24, at the home of Dr. and Mrs. W. T. Dodge, who proved to be royal entertainers.

Following members were present: Drs. Dodge, Spoor, Griswold, Karshuer, Whitney, Burkhart, Franklin, Weaver, Snyder, Campbell, Farley, and MacIntyre.

After doing justice to the banquet, the business and scientific program was carried out in the spacious parlors.

Dr. L. S. Griswold presented a paper on, "Modern Progress of Surgery,—a Review."

Discussion followed by Drs. Dodge, Burkhart and Snyder.

Next in order was discussion of methods for the year's meetings. It was decided that the members living in the city should entertain during the winter months and those outside in the summer, which plan we believe will create a greater interest in our Society than we have had in the past.

Dr. Griswold extended an invitation to the Society to be his guests at the February meeting, which was gladly accepted.

No further business to come before the meeting, a motion to adjourn was carried, after which followed a social session.

D. MACINTYRE, *Secretary.*

MUSKEGON-OCEANA

Regular meeting of the Muskegon-Oceana County Medical Society was held at the residence of Dr. F. B. Marshall, at Muskegon, Friday afternoon, December 30, 1910.

Meeting called to order by President Dr. Geo. S. Williams, at 5.30 P. M.

Members present: Drs. Williams, Marshall, Olson, Gamber, Cramer, Hartman, Hotvedt, Chapman, Sullivan and Donelson. As guests: Drs. Ayling and Bussard.

Minutes of last meeting read and approved as read.

Dr. Sullivan read a paper on "Asthenic Gout."

The President called upon Dr. Gamber to open the discussion. He was followed by Drs. Hotvedt, Olson, Gamber, Marshall, Williams and Sullivan.

Dr. Cramer was appointed temporary Secretary.

Dr. Marshall showed two clinical cases of bone disease in which Beck's Paste had been used.

Dr. Marshall then read a paper on "The Diagnostic Value and Therapeutic Uses of Beck's Bismuth Paste."

Discussion opened by Dr. Ayling, who described the preparation of the paste as used at Hackley Hospital, followed by Drs. Donelson, Hartman, Sullivan, Hotvedt and Williams.

Dr. Olson moved that this Society bring to the notice of the City Council our views on the inspection of milk, meat, and other food supplies, and advocate that suitable provision should be made for this inspection and also the establishment of a municipal laboratory. Seconded by Dr. Donelson.

Dr. Marshall amended that the President appoint a committee consisting of the President, health officer, and two other members, to present this matter to the Charter Commission. Seconded and carried.

The following committee was appointed: Dr. Geo. S. Williams, President; Dr. J. T. Cramer, health officer; Drs. Hotvedt and Marshall.

Dr. Hotvedt moved that the Society hold a public meeting, not sooner than three months from now, relating to Public Health Questions, with at least three papers to present and a general invitation to the public. Seconded and carried. Meeting adjourned.

Regular meeting of the Muskegon-Oceana County Medical Society was held at the Occidental Hotel, Friday evening, January 20, 1911, after dinner at 6.30, the guests of Dr. Powers.

Meeting called to order by President Dr. G. S. Williams, at 8.25 P. M.

Members present: Drs. Williams, Denslow, Buskirk, Campbell, Quick, Donelson, A. A. Smith, Hotvedt, Olson, Gamber, Eames, Cramer, Hartman, Marshall, VanderLaan, Powers, Sullivan and Chapman. Dr. Ayling as visitor.

Minutes of last meeting read and approved as read.

Dr. Hotvedt brought up the matter of public meeting.

Dr. Donelson moved, Dr. Hotvedt seconded, that the President appoint a committee of three to have full power to make all arrangements for this meeting. Carried.

The President appointed Drs. Campbell, Donelson and Hotvedt as this committee.

Dr. Reuben Peterson read a paper upon the "Radical Abdominal Operation for the Cure of Cancer of the Uterus," which was illustrated by lantern slides thrown upon a screen.

The President called upon Dr. VanderLaan to open the discussion. He was followed by Drs. Hotvedt, Marshall, Donelson, Olson, Williams and Peterson.

The Board of Directors reported favorably upon the application of Dr. Joseph M. Stone.

The Secretary was instructed to cast the vote of the Society for acceptance of Dr. Stone's application to membership.

The matter of the action being taken by Boards of Supervisors throughout the State to influence the Legislature to repeal the act providing that the owners of claims against the County, rejected by the Board of Supervisors, may sue for same in the Circuit Court was brought up and discussed. It was moved, seconded and carried, that:

Whereas, the physicians of the State of Michigan have been long suffering at the hands of Boards of Supervisors, regarding the payment for professional services rendered to county charges, it is the sense of this Society that the medical profession of the State should take active steps to combat the action of the Boards of Supervisors in this matter of influencing legislation.

The Secretary was instructed to write to the members of the Legislature from this district, urging that the act providing for appeal to the Circuit Court and instituting suit against Boards of Supervisors should not be repealed.

A universal vote of thanks was extended to Dr. Reuben Peterson for his interesting paper of the evening. Meeting adjourned.

V. A. Chapman, *Secretary.*

O. M. C. O. R. O.

On January 18, 1911, at Grayling, the following officers were elected for the year by the O. M. C. O. R. O. Medical Society:

President, W. G. Young, Gaylord; *Vice-President*, Ruey Ford, Gaylord; *Secretary-Treasurer*, H. W. Knapp, Johannesburg; *Delegate*, F. S. Love, West Branch; Alternate, R. J. Beeby, West Branch.

Archie MacKinnon, *Secretary.*

SHIAWASSEE

The February meeting of the Shiawassee County Medical Society was held at the Hotel Hauck, Owosso, on Tuesday evening, February 7.

Dr. A. P. Biddle, of Detroit, was our guest at this meeting. A large number of our members were present to listen to an exceedingly interesting talk on 606. After the talk the subject was open for discussion, and our good friend, the doctor, was kept busy answering numerous questions. The only thing that kept this meeting from reaching into the wee hours of the morning was the fact that a well-prepared menu awaited.

Dr. Biddle has many friends in the Shiawassee County Society who were glad of the opportunity to renew old friendship.

Dr. F. A. Watts, of Owosso, has been appointed by the supervisors of Shiawassee County to care for indigent cases.

H. A. Hume, *Secretary.*

WAYNE

At the General Meeting of the Wayne County Medical Society, held January 16, Dr. C. G. Jennings spoke on "Therapeutics of Heart Failure in Acute Infectious Disease."

He dwelt upon the importance of a knowledge of the therapeutics of this condition.

Three great factors are at fault in producing failure of the heart: Degeneration of the myocardium, vaso-motor, paresis and vagus neuritis.

Vagus neuritis is found as an associated condition in cardiac failure, especially in diphtheria.

Referring to the etiology of these conditions and their relation to cardiac failure, the essayist said that all infections are attended by a certain amount of albuminous inflammation of the myocardium. Only in exceptional cases does this cause symptoms of serious importance. Toxemias as well as degeneration cause vaso-motor paresis.

Pathologically: The myocarditis may be a diffuse condition or it may be patchy. Another form of myocardial inflammation results from septic thrombi, especially in the severe type. In the mild cases which are not purulent there is destruction of minute areas, with a small amount of myocardial involvement. Reference was made to the fact that many chronic myocardial cases could be traced back to the time when acute myocarditis followed influenza which was prevalent here some years ago.

In a certain number of cases heart failure comes in the first few days. It is then attributable to vaso-motor origin, while if it appears late it is of myocardial origin. As an example of the former, scarlatina was mentioned; of the latter, typhoid fever, while pneumonia might be considered between the two conditions, the vaso-motor being perhaps more frequent.

In influenza, rheumatism and diphtheria the myocardial condition is more frequent.

Of first importance in treatment is prevention. The scientific treatment of the toxemia is of much moment. An endeavor should be made to ascertain if we are dealing with cardiac asthenia or vaso-motor paresis. The latter, which is usually present in scarlatina, calls for hydrotherapy and a hurried elimination. This is a very important factor.

In influenza and rheumatism the same general principles apply. Influenza should be treated as a severe infection and not as a cold.

In diphtheria circulatory failure should seldom occur. Antitoxin, of course, should be administered with vigor.

Medicinally: Taking pneumonia as one of the best examples to illustrate; a lowered blood pressure is one of the first manifestations to put

us on guard. When this occurs caffeine, except in those cases where it disturbs sleep, is the best drug to use in three or four grain doses every three to four hours, hypodermically. If caffeine fails, camphor may be of service. Adrenalin, whose chief action is upon the termination of the vaso constrictor nerves of the splanchnic area, can be used in doses of minims 10—15 of 1-1000 solution. It should be administered intramuscularly. Hot colon irrigations give same effect as adrenalin.

All cases of cardiac-asthenia call for digitalis, remembering that a diseased myocardium is more susceptible to its action and therefore must be given cautiously. Digitone, digatin, soluble digitalin all by hypo are best. Digitalis may also be given per rectum, recent experiments showing that its effect when thus given is quicker than when given by mouth.

Strophanthin intra-muscularly or intravenously in 1-120 to 1-60 grain doses and not to be repeated under 12 hours is often of service.

While the trend of professional opinion is away from alcohol, clinical experience would tend to impress the speaker that it does good in small doses.

Nitroglycerin should never be given in the vasomotor form.

Strychnine is a valuable nerve tonic. Doubtful if oxygen does any good in circulatory failure. It may be beneficial where dyspnea and cyanosis are due to other causes.

Venesection in these cases has given very little relief.

The paper was discussed by Drs. Freund, Hass, Delos Parker, Siegel, Morley, W. J. Wilson, Jr., Cooley, Judd.

A committee consisting of Drs. Robbins, Siegel, and Fay was appointed to investigate "Contract Practise."

The new members voted into the Society were as follows: B. R. Sumner, A. L. French, J. E. King, J. D. Hayes, Joshua Hauser, J. W. Willson, Carl Dubfernell and F. C. Kidner.

As associate members: E. T. Abrams, Dollar Bay, Mich., and C. E. Keyport, Grayling, Mich.

The delegates chosen to represent the Society at the next Michigan State Society meeting to be held at Detroit, during September, 1911, were as follows:

Delegates: F. B. Walker, G. L. Kiefer, F. W. Robbins, G. E. McKean, C. G. Jennings, B. R. Schenck, G. L. Connor, T. A. McGraw. Alternates: R. C. Andries, W. J. Wilson, Jr., H. A. Freund, James Cleland, W. D. Ford, F. J. W. Maguire, R. C. Jamieson, F. G. Buesser, C. H. Judd.

The following donations were made to the "Library": Neurological Society, subscriptions for four Journals; Ophthalmological Club, subscriptions for five Journals; H. O. Walker, 130 volumes: Michigan State Medical Society, 80 volumes; W. L. Babcock, 6 volumes.

The following donations were made to the "House":

A picture of "The Anatomist," from Alice M. DeForrest; a picture of "Pasteur," from Parke, Davis & Co.; one picture from Dr. Martin; a picture of Dr. Ford, from Dr. Mercer; a picture of "Bilroth's Clinic," from Dr. Wm. Brodie; two pictures from Dr. Stapleton; a picture of "The Doctor," from Dr. Aaron; three book cases, one each from Drs. Bell, Chittick and Tappey; a davenport, two chairs, one table and a hall-seat from Drs. Varney and Hirschman; a desk chair from Dr. Maire; a settee from Dr. Freund; five tables from the Detroit Clinical Laboratory, and a typewriter table from Dr. Thaddeus Walker.

At the Medical Section meeting held on Monday, January 23, Dr. J. E. Davis read a paper on Food Therapy. He said: The food principles, protein, fat, carbohydrate, water and salts are all used in the body processes, but only protein is considered as strictly an essential of the body structure. The quantity and quality selection of these principles is not according to either the bodies' chemical composition or proportion of its proximate principles, but according to its constitution and varied functions. Ordinarily this selection will average 1-1000 of the body weight in protein, 1-2000 of fat, 1-200 of carbohydrate, 1-75 of water (combined in food or approximately 1000 cc), 1-75 of water uncombined (approximately 1000cc), and 1-10,000 of inorganic salts (mostly NaCl. amounting to approximately 20 g.).

Foods are used both to prevent and cure disease.

The body in a perfect state of nutrition is at the highest attainable degree of immunity to disease.

The ill fed of the race are doubtless more subject to disease than the overfed, and even if the survivals of the ill fed outlive the survivals of the overfed, the overfed suffer less and enjoy more.

When properly stimulated, apparently, all fixed tissue cells are phagocytic under some conditions.

Enzymic action in the processes of digestibility and indigestibility determines what amino acids

(the fragmentary cleavage products of the protein mass) are needed for the construction, repair and defence of the body's fixed tissues. The fat, carbohydrate, water and salts are subsidiary, contributing in various ways to the body's protein, function and structure.

The question of the distribution of the numerous amino acids from the food protein in the body protein is a most interesting process. If it is by way of natural selection, then the invading parasitic proteins determine the body's specific defenses and particular attention must be given to the food supply. To our aid in this problem of food for body defenses can be called the principles of anaphylaxis. Sensitization by too large a quantity of an unaccustomed protein will be followed when a second meal of the same is given before immunity can be developed by nausea, vomiting, diarrhœa and so called autointoxication.

If, however, a small amount of the unaccustomed protein is allowed and a further allowance is carefully restricted and extended sufficiently in administration periods, an excellent immunity is developed.

Sensitization doubtless explains most of the disasters of infant feeding and the weaning period.

The fats and carbohydrates as well as the proteins can be used in the sense of specific medicaments.

As lecithins and fatty acids will in a measure replace a hemolytic compliment, fat is valuable as a means for body defenses. Fat is often specified in relieving the intestine of indigestion induced by the carbohydrates. Again in the abnormally thin and in the neurasthenic dyscrasias no therapy is as effectual as the food of high fat content in a luxury consumption dietary.

The carbohydrates are definitely specific in the acidosis, also in the dangerous katabolism of fevers by preventing precipitate energy losses and sparing protein.

In specific food therapy of a disease like diabetis mellitis, the best procedure is first a test diet to determine the patient's diet habits and carbohydrate toleration; then arrangement of the carbohydrate and protein (from which perhaps forty-five per cent. of sugar can be formed) should be made to meet the ketonuria.

Conclusions:

1. Feeding in health and disease is a clinical problem which is solved after consideration of several factors; some of the most important are here named.

2. The energy value of the food must be calculated to balance the output of body—be made to meet the ketonuria.

3. The permanent body structures are grown and repaired from proteins.

4. Fats and carbohydrates are not essential parts of the body, though they are essential to the life processes.

5. Specific selection of the amino acids or protein fragments is made by the processes grouped under the familiar terms of digestibility and indigestibility.

6. The principle of anaphylaxis is involved in food selection when immunity is to be developed.

7. Specific food therapy must follow strictly physiological indications if definite results are obtained.

The paper was discussed by Drs. Inglis, Ives, Jennings, Carstens, Stevenson, Hirschman, Stafford, Robt. Owen, and Blodgett.

At the general meeting held Monday, January 30, Dr. Reuben Peterson, of Ann Arbor, gave a very interesting lecture on "The Operative Treatment of Carcinoma of the Uterus with Especial Reference to the Radical Abdominal Operation." His paper was illustrated with lantern slides.

Before beginning his lecture he congratulated the Society on its new home. He said it certainly shows an advancement in the medical profession of Detroit. As a member of the library board of the University of Michigan, he also expressed his willingness to co-operate with the library committee of our Society.

He said: The radical abdominal operation is a distinctly logical procedure. It is based on the fundamental principle that starting as a local process cancer soon advances along routes determined by the particular location of the disease, and that in order to ensure a non-return of the process, not only the growth itself but its extensions must be removed radically. Failure to act up to these principles has been the cause of non-success. Vaginal hysterectomy and abdominal hysterectomy as advocated by Freund for uterine cancer have proved failures, for the reason that they failed to remove all the cancerous tissue at one or both sides of the uterus. It is the high post-operative mortality, together with the fact that from lack of education along cancer lines patients seek relief late in the disease, that has prevented the operation from becoming popular in this country. Statistics do not show that cancer of the uterus is less frequent in America than abroad, yet there is a great dispro-

portion of radical abdominal operations abroad, as compared with the United States. Certainly surgeons of America are as skilled as those abroad, and therefore this is not a cause for the disproportion.

The question of permanent results is after all the most interesting. Former operative procedures, like vaginal hysterectomy, gave a more favorable primary mortality, an advantage availing little when only the exceptional patient lives more than two years after the operation.

The superiority of the radical operation lies in the fact that while the primary mortality must from the very nature of the operation be high, more patients are alive and well a certain definite number of years after this than after any other operation.

In his own series of cases the percentage of cures after five years, after the elapse of which time the disease can for all practical purpose be considered permanently cured, is 57.1 per cent. This includes both cancers of the cervix and of the fundus. In considering cases of cancer of the cervix alone the percentage of cures is forty per cent.

A certain number of recurrences, later experience has taught were undoubtedly due to errors in technique, as, failure to remove enough of the vaginal wall, and the prolongation of the operation to such an extent as to render impossible the removal of lymph glands.

With regard to the pelvic lymph glands it is logically and theoretically correct that they should be removed in every instance.

Yet if the removal of these glands cannot be done without too great danger to the life of the patient, it had better be omitted. In the face of Wertheim's statistics with his sixty per cent. of permanent cures, where glands are removed only when such removal is not fraught with too many dangers, it seems that it is clearly the surgeon's duty to look upon this question conservatively.

The surgeon's task is to save as many lives as possible. If, therefore, the pelvic lymph glands can be removed with a fair degree of safety to the patient, by all means let it be done; if not, it had better be omitted. For what has been gained if the pelvis is cleanly dissected and the patient dies at the completion of the operation?

The selection of patients for the radical abdominal operation is not always an easy matter. In most cases an exploratory laparotomy will be found necessary to decide this question. It is almost impossible to determine the extension of the cancerous process through bimanual examination except in markedly advanced cases. Certain patients, even though the extent of the disease seems to warrant the radical procedure, should not be subjected to the operation. Fleshy patients, with weak hearts and degenerative changes elsewhere in the body, patients with continuous high blood pressure, and very anæmic or septic patients are always poor subjects for the radical abdominal operation.

In concluding, Dr. Peterson said:

We need a better educated public along cancer lines, and this is not an impossible task. We must lay aside our hesitancy, our fear of being unethical, and tell women the symptoms of this disease in such a way that they will seek relief early when operative treatment holds out the most hope of cure.

The following donations were received, and a vote of thanks was given the donors: finger-bowls from Flemming Carrow; four pictures from J. F. Hartz Co.; two pictures from H. W. Yates; a chair from I. S. Townsend; scrap-book of the Wayne County Medical Society, from W. J. Stapleton.

MEETINGS HELD AT THE HOME

On January 12 the Society for Sexual Hygiene met. At this meeting Mr. Raymond E. Van Syckle was elected Secretary. Plans were also discussed for carrying on educational work along these lines among the parents of school-children at meetings to be held at the different schools.

On January 17 the Blackwell Society met. Drs. Pagelson and Tregea read papers on "The Co-operation of Medicine and Dentistry."

On January 18 the annual meeting of the Stockholders of the Detroit Clinical Laboratory took place.

On January 18 the Detroit Oto-Laryngological Society met. Dr. R. Bishop Canfield, of Ann Arbor, read a paper on "Sigmoid Sinus Thrombosis."

On Thursday, January 19, the Detroit Medical Club met. Dr. J. E. Davis read a paper on Food Therapy.

The Polyclinic Society of Harper Hospital held its monthly meeting Saturday, January 28. Dr. R. C. Jamieson read a paper on the treatment of syphilis with salvarson.

He also reported six cases treated with this agent.

R. C. Andries, *Correspondent.*

NEWS

The Seventh Annual Conference of the American Medical Association on Medical Education and Medical Legislation called by the Council on Medical Legislation and the Council on Health and Public Instruction will occur at the Congress Hotel, Chicago, March 1, 2, and 3, 1911.

Governor Osborn has appointed Drs. T. M. Koon, of Grand Rapids, and J. H. Kellogg, of Battle Creek, to the State Board of Health.

The next meeting of the Mississippi Valley Medical Association has been announced for Tuesday, Wednesday and Thursday, October 17, 18 and 19, 1911.

The orators for this meeting will be Dr. Joseph D. Bryant, of New York, in Surgery, and Dr. J. C. Wilson, of Philadelphia, in Medicine.

An important change in the program next year will be the adoption of the plan of making it for the most part an invitation program.

The number of papers will be limited, and the topics to be discussed will be carefully chosen. The men selected to read the papers on the chosen subjects will be men who are known to be especially fit for discussing these subjects.

Dr. A. D. Holmes will be chairman of the Medical Section and Dr. Barnet will be chairman of the Surgical Section.

The governors of the New York Skin and Cancer Hospital announce the following course of lectures in the Out-Patient Department, to be given free to the medical profession on presentation of their professional cards:

March 1, Dr. Bulkley, Eczema; March 8, Dr. Bulkley, Eczema; March 15, Dr. Bulkley, Acne; March 22, Dr. Bulkley, Acne; March 29, Dr. Bulkley, Psoriasis; April 5, Dr. Bulkley, Syphilis; April 12, Dr. Bulkley, Syphilis; April 19, Dr. Bainbridge, Cancer; April 26, Dr. Bainbridge, Cancer.

The lectures will be abundantly illustrated by means of cases, models, colored plates, etc., and will aim at presenting the subjects in a practical and instructive manner.

The American Proctologic Society announces through its committee that the cash sum of $100 will be awarded, as soon as possible in 1911, to the author of the best original essay on any disease of the colon in competition for the above prize.

Essays must be submitted to the secretary of the committee on or before May 10, 1911. The address of the secretary is given below, to whom all communications should be addressed.

Each essay must be typewritten, designated by a motto or device, and without signature or any other indication of its authorship, and be accompanied by a separate sealed envelope, having on its outside only the motto or device contained on the essay, and within the name, the motto or device used on the essay, and the address of the author. No envelope will be opened except that which accompanies the successful essay.

Dr. Lewis H. Adler, Jr., *Secretary.*
1610 Arch St.,
Philadelphia, Pa.

Dr. G. Carl Huber, professor of Histology and Embryology of the Department of Medicine of

MICHIGAN STATE BOARD OF REGISTRATION IN MEDICINE

ADDITIONAL REGISTRATIONS IN MICHIGAN

Name	Address	College	Qual.	Date
Palmer, Raymond A.	Ann Arbor	Univ. of Mich., Med. Department	Exam.	11- 5-10
Daum, Ignatz I.	Detroit	Univ. de Paris	Exam.	11-11-10
Wagner, Nicholas B.	Iron Mountain	Rush Med. Coll.	I	11-30-10
Cronk, Fred John	Kalamazoo	Johns Hopkins	I	12-15-10
Brown, Horatio A.	Jackson	Rush Med. Coll.	I	12-23-10
Halstead, Albert E.	Chicago, Ill.	Chicago Med. Coll.	I	1-12-11
Alving, Otto Edwin	Iron Mountain	Royal Karoliaska Med.-Chur., Sweden	I	1-31-11
Herriman, Elbridge A.	South Haven	Med. Coll. Victoria Univ., Toronto	Exam.	2- 1-11

the University of Michigan, tendered his resignation as secretary of the department at the meeting of the Board of Regents, January 19. While Dr. Huber withdraws February 1 from this position which he has occupied for the last fifteen years, he retains his professorship.

Dr. Huber has been made head of the new department of embryology at the Wistar Anatomical Institute, Philadelphia, and will spend part of his time there. An arrangement has been effected for the next two years. By long service Dr. Huber has earned a year's leave of absence, which the Regents have consented to allow in two periods of six months each. During the next semester and summer, Dr. Huber will be at the Wistar Institute, and he will return to the University of Michigan for the first semester of next year. The second semester of that year, again, he will go to Philadelphia. Plans for the future have not been definitely arranged.

At a meeting of the Medical Faculty of the University of Michigan, Dr. C. W. Edmunds, professor of Therapeutics and Materia Medica, was elected secretary of the department to take the place of Dr. Huber.

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The occupation of a new laboratory by the departments of Physiology and Pharmacology of the University of Michigan this year, has been a distinct advantage to the students engaged in those sciences at Ann Arbor. Where formerly the chemical and physiological work of the departments had to be done in crowded rooms with poor light and no ventilation, commodious laboratories have now been supplied by the remodeling of the main portion of the Old Chemical Building.

The basement and lower floor have been fitted up for the department of Pharmacology, while the second and third floors are equipped for the department of Physiology. Besides main laboratories on both the first and second floors, there are also offices, rooms for special research, and preparation rooms.

Perhaps the chief feature of the new laboratory is the amphitheater, newly constructed at the east end of the building. By making the rear part of the north wall project fifteen feet, room for the present large amphitheater was provided, and at the same time the symmetry of the building was improved. The amphitheater, which is the design of Dr. W. P. Lombard of the Physiology department, seats about 150 students, and is well lighted and ventilated, and equipped with every convenience. This amphitheater, says Dr. C. W. Edmunds, professor of Materia Medica, is the most comfortable and in every respect the best amphitheater on the University Campus.

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A contagious disease hospital for the city of Ann Arbor will be built if the city accepts an offer which the Board of Regents of the University of Michigan made at their meeting, December 21. The necessity for such a hospital was pointed out at least two years ago, and has been the subject o negotiations between the Regents and the city fathers since the November meeting of the Board. At the December meeting the Regents offered by resolution to furnish a site and to equip and maintain the hospital when completed, provided that the city would give $25,000 for the erection of the building. The offer, if approved by the Common Council, will go before the people.

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The new Eye and Ear Ward was opened at the University late in January, with twenty-five patients. It is a four story re-enforced concrete building, and cost about $30,000.

BOOK NOTICES

Collected Papers by the Staff of St. Mary's Hospital, Mayo Clinic, Rochester, Minnesota, 1905-1909. Octavo of 668 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911, Cloth, $5.50 net.

Admirers of the work done at the St. Mary's Hospital Clinic at Rochester, Minn., by the Mayo Brothers and the Hospital Staff, will no doubt welcome the advent of this book, and be pleased to know that such a large number of papers from this widely known clinic have been indexed, bound and presented to the profession in accessible form and at nominal price.

Seventy-three valuable papers, many of them beautifully illustrated, grouped into one volume, make that volume unique. It is not a text-book. It treats no particular subject, but gives the advanced opinions of the individual writers on the subject presented, at the time the papers appeared.

All classes of cases treated at the Mayo Clinic are represented in this work, that includes pretty nearly everything afflicting the human being either in the head, chest, abdomen, pelvis, arms, legs, hands or feet.

It is impossible for all to visit Rochester every year. It is impossible for some to go at all, but each and all may, if he or they choose, to a large degree, bring the clinic to his own office by means

of this book, where he can at his leisure study the work done by a master hand and presented by a master pen.

As a reference book to any surgeon it is valuable, many times beyond the price asked.

Bismuth Paste in Chronic Suppurations. Its diagnostic importance and therapeutic value, by Emil G. Beck, M. D., surgeon to the North Chicago Hospital, Chicago, Illinois. With an introduction by Carl Beck, M. D., and a chapter on the Application of Bismuth Paste in the Treatment of Chronic Suppuration of the Nasal Accessory Sinuses and the Ear, by Joseph C. Beck, M. D., with eighty-one engravings, nine diagrammatic illustrations, and a colored plate. St. Louis: C. V. Mosby Company. Price, $2.50.

In this monograph Beck gives a clear, concise and reasonably complete description of his experience to date with the use of bismuth paste in the treatment of fistula, sinuses, and pus cavities. The results he shows and conclusions he draws are simply convincing.

After a brief introduction and consideration of general conditions, he shows the value of bismuth paste in anatomical diagnosis, therapeutic effect. Emphasis is given by numerous radiographic illustrations throughout the work.

His theory how the paste acts to cause and further the curative processes is ingenious and rational, easily harmonizing with known laws of healing and immunity.

The technic is illustrated and explained. The limitations and causes of failure are dwelt upon. A chapter on bismuth poisoning and prevention adds much to the practical value of the work. As this treatment can be given by the general practitioner, it appears to open a broad field and gives promise of great hope to many to whom heretofore the horizon has been overcast and gloomy.

The Care and Training of Children. By LeGrand Kerr, M. D., of Brooklyn. Funk & Wagnalls Company, Publishers. 12mo, cloth, 75c. net; by mail, 82c.

The practising physician will find a mine of useful and interesting facts in Dr. Kerr's book. He has condensed the best of many years' experience and observation as a physician, together with the more intimate observations of many parents, who, under his appreciative eye, have made a study of the subject. He has not sought to elaborate a "system" of training, and imprint thereon his own theories, but has rather reflected in a series of delightful monographs the matured experience of the many. There is scarcely a feature of child training, hygienic, physical, mental, moral that is not considered; and when one has read the various chapters there seems to be nothing more that could be said to cover the problem. Paragraph topics appear in the margins throughout the book.

DR. WILFRID HAUGHEY,
Secretary Michigan State Medical Society
BATTLE CREEK, MICH.

My Dear Dr. Haughey:—

I am planning to be in Lansing on Tuesday, the 28th, to enter the protest of the Medical Profession against the passage of House Bill No. 123, which is a measure "to provide for the regulation, licensing and registration of Chiropractors, practising Chiropractics, and for the punishment of offenders against this Act."

This Bill was referred to the Committee on Public Health, and will come up for the third reading on Tuesday next. This is a vicious measure and should be opposed by the profession of the State.

There is also House Bill No. 208 which was referred to the Committee on Towns and Counties, and is entitled: "An Act relative to the adjustment and payment of claims against counties and to provide appeal from disallowance thereof." This Bill amends the Act of 1909 by the following insertion:

> ***"Provided, that no appeal shall be allowed unless such claimant shall have appeared before the said Board and presented evidence in support of such claim."***

The objection to this law is that the Board of Supervisors allow Claims before adjourning and usually an opportunity is not given for the hearing required by law, and consequently there can be no appeal. It seems to me that this amendment should be defeated and that the profession is interested in accomplishing this.

House Bill No. 235, which is our Medical Practice Act, was introduced by Representative Reynolds and referred to the Committee on Public Health. To the wording of this Act the Christian Scientists are objecting and a hearing will be given them on Friday. It may be necessary to make some concession to them. However, I think this is a matter that should have our consideration at the time the other questions are taken up.

Will it not be possible for you to be in Lansing on Tuesday next to assist in accomplishing our purposes? I have written to Drs. Burr, Abrams and Du Bois, urging their attendance.

With kindest regards, I am,
Yours sincerely,
WALTER H. SAWYER.

Hillsdale, Mich., Feb. 22, 1911.

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ORIGINAL ARTICLES

ALCOHOL AS A FACTOR IN MENTAL DISEASES*

G. F. INCH, M. D.
Kalamazoo, Mich.

The last decade or so has witnessed a great change in the relation of the physician to the public. The physician has come to realize that his duties are more than merely curing diseases,—that they include the far greater task of preventing them.

In olden times medicine concerned itself less with the causes of disease than it did with symptoms and treatment, in matters of which it was neither safe nor desirable to instruct the laity. With the discovery of micro-organisms, the causes of disease began to occupy the medical man as never before, and it soon became evident that were any progress to be made against wide-spread contagions the physician must take the layman into his confidence and they must work together. Therefore, the doctor has taken up his new duty of prevention as well as cure, and all over the country has been educating the public, and in turn asking its help. Witness the great movement for prevention of tuberculosis, the effort to save the babies by milk stations and instructions as to proper feeding, the necessity of pure water and milk supplies, the part flies, mosquitoes and other insects play in the transmission of diseases, venereal prophylaxis, and so we might go on extending the list indefinitely.

So important has the prevention of diseases seemed to physicians, that they have come to demand a National Board of Health.

In all this great movement the matter of prevention of insanity has not received the attention it deserves. While great progress has been made in the care and cure of the insane, in a better understanding of the various types of mental ailments, the number of insane seems to be gradually increasing. That more effort has not been made in the prevention has to an extent been due to the fact that the average general practitioner has a meagre idea of mental diseases, and that asylum physicians seldom come in contact with beginning cases. We can never hope to do away entirely with insanity, but we can hope to lessen its ravages. We find upon examining statistics that three of the most important causes of insanity are heredity, syphilis and alcohol.

*President's address, read at the Annual Meeting of the Kalamazoo Academy of Medicine, Kalamazoo, Michigan, December 13, 1910.

The prevention of syphilis is receiving attention at the hands of the profession, but the fact that the abuse of alcohol is a potent cause of insanity has been overlooked not only by the general practitioner but by the psychiatrists as well, as is evidenced by the fact that only of comparatively recent years do we find any widespread mention of alcoholic insanity in asylum reports. In studying alcohol as a cause of mental derangement we should consider it in three ways,—first as to its hereditary effect, second as an accessory or contributary cause, and, third, as a direct cause. Forrell and others claim that alcohol acts on the germ plasm, which it injures by its toxic effect. Still others believe that it may exert its poisonous effect through the placental circulation. Forrell found that out of two thousand idiots in Switzerland, a very large majority had alcoholic parents, and, furthermore, that in a large number of these cases the date of conception could be definitely placed during the carousal and fest seasons, at which time it was customary for the people to drink much more than usual. It seems reasonable that the germ plasm would partake in the general poisoning of the body. Often we find a history of alcoholism in the parents in families where there is one defective child, the others normal. As an example I might mention the case of an idiotic child admitted to the asylum some years ago. He had several healthy brothers and sisters. There was no evidence of injury at birth or sickness in early life, and no history of insanity in the family, but a history of heavy drinking on the part of the father for some years, during which period the child was conceived.

Kræpelin, the great German psychiatrist, found in twenty-nine families in which the father and mother were habitual drunkards the following results, which he says can be partly, at least, attributed to alcohol. There were thirty-three abortions and 183 living children. Of this number 158 were personally observed. Sixty died in the first year, ninety-eight were abnormal mentally, thirty-five being nervous and psychopathic, eight epileptic, twelve imbecilic and three idiotic. Of the forty mentally healthy six were physical weaklings and retarded in their development, seven were rachitic and four tuberculous. This leaves but twenty-three mentally and physically healthy, and of these eight showed distinct stigmata of degeneration. So we see that in these twenty-nine families, where there were 158 children observed, only seventeen were absolutely normal. Bourneville found that in idiotic and epileptic children in 35% of the cases the father was an alcoholic and in 3% the mother. Some place the percentage in this class of defectives as high as 85%.

I find it a very difficult matter to compile accurate statistics in regard to the importance of alcohol as an hereditary factor, because it is not at all uncommon to have relatives of the patients deny that the ancestors drank, even when it is a matter of common knowledge; so I think it is safe to take it for granted that any percentage we may be able to obtain is far too low. In about five hundred insane admitted to the Michigan Asylum during the past year there is a history of alcoholism in the ancestors in 17%; in the majority of instances the defect was in the father. Of the special groups, alcoholics themselves show the highest percentage. Twenty-eight per cent. of the known cases had fathers or mothers who were drunkards, and taking also into consideration the collateral inheritance, 40%. This is in accord with the views of those who believe that one form of degeneracy is liable to be passed on unchanged to the offspring. The epileptics show the next highest percentage, namely 30%. General paretics hold third

place, 25%, while the percentage of alcoholism in the ancestors of imbeciles is rather low.

In Dr. Parker's report of the asylum at Glasgow, Scotland, we read the following: "Drunkenness is as notable a feature as ever among the parents of our admissions, whose breakdown or arrest of mental growth has taken place during the period of most rapid development. Out of 282 admissions in 110 cases only could a definite history be obtained. Of these 110 a history of parental drunkenness was obtained in fifty-nine instances, and in fifty-one the parents were sober or total abstainers. This gives a history of 53.6% of the cases showing a history of parental use of alcohol." He further states that in those cases that break down before the twenty-sixth year there is in 78% parental use of alcohol. These figures, I think, are sufficient to prove the importance of alcohol as a factor in the production of an unstable nervous system through the ancestors.

As an accessory cause of insanity, alcohol also plays an important rôle, but here it is at times difficult to say whether the abuse of alcohol is the cause or the result of the mental derangement. It is not uncommon to have a patient recovering from mental excitement tell us that during the early stages of his excitement he drank excessively, and to attribute his final complete breakdown to this excess. In 17% of our cases of dementia præcox there is a history of excessive drinking, and in many of these it undoubtedly contributed to their breakdown. A German writer states that in about half of the cases of insanity not directly due to alcohol it was an important factor in the production of the mental disturbance, and in 65% of the male epileptics alcohol is thought to be responsible for their commitment; that is, they would probably have been able to live at home if they had abstained from alcohol, which tends to make them more quarrelsome. Another form of disease in which alcohol plays an important accessory rôle is cerebral arterio-sclerosis. We find that in 40% of our cases of arterio-sclerosis there is a history of excessive drinking. Kræpelin shows that in arterio-sclerosis as affecting the brain 64% of the cases are alcoholics. It must be remembered that his statistics are gathered from a people who are beer-drinkers, but he admits that many of them use whiskey also. He, however, sees no difference in the psychosis produced by malt and distilled liquors.

The relation of alcohol to general paresis is an important one. A great many psychiatrists claim that three-fourths of the cases of general paresis have contracted syphilis during an alcoholic bout, and often syphilitics would not develop general paresis but for their alcoholic habits. Thirty-three per cent. of our cases of general paresis admitted during the past two years give a history of alcoholic excesses, but in many of these cases it must be admitted there are other important factors, such as heredity and faulty treatment of the primary infection.

We now come to the consideration of alcohol as a direct cause of insanity. Here, as elsewhere, statistics vary, depending on the section of the country in which they are compiled and the personal equation of the writer. Any one who has visited Scotland must have noticed the number of drunken men and women in the streets of the smaller towns on a Saturday night, and one would expect to find some relation between this condition and the forms of mental diseases in their institutions. I have already spoken of the importance alcohol bears as an hereditary factor in the insane at Glasgow Hospital. In the year 1908 there were admitted to this hospital three hundred patients, and of this number 18% were cases in which alcohol was directly the

cause of their mental derangement. Many of the English asylums give a very high percentage of alcoholic cases. At Bixley we find alcohol either the cause or contributary cause in 48% in '05 and 55% in '06. In the 1073 cases admitted to the Psychopathic Clinic at Munich in the year ending 1905, 30% of the male patients were suffering from psychoses directly due to alcohol and 6% of the female cases. Cotton gives the following statistics from the Danvers Hospital in Massachusetts. In 1904 31% of the admissions were alcoholics, in 1905, 37% and in 1906, 40%. In the Michigan Asylum during the past two years we have had sixty-two cases of alcoholic insanity, about 7% of the total admissions, or about 15% of the male patients. Our patients are drawn largely from agricultural communities, and we have not as large a percentage of foreigners as some of the Eastern asylums. While it might appear from the above statistics that alcoholic insanity is apparently on the increase, it must be remembered that in former years many of these cases were classified under different headings.

Alcohol produces several different types of insanity, viz., delirium tremens; alcoholic hallucinosis, characterized by active hallucinations of hearing and a clouded consciousness, but to a less degree than in delirium tremens; alcoholic paranoia, characterized by ideas of persecution and infidelity, and, lastly, the more rare Korsakoff's Disease, in which there is peripheral neuritis, failure of memory for recent events and a tendency to fabricate. Those suffering from the first two types usually recover promptly, although it is not uncommon to have some of the chronic forms follow cases of delirium tremens. As to the comparative importance of the different alcoholic drinks, very little definite knowledge can be obtained, as there are few drinkers who confine themselves to any one liquor. In general it may be said that whiskey, brandy, hard cider, etc., are more productive of injury to the nervous system, but that *any* alcoholic beverage continued for some time is harmful. In Germany, where beer is the common drink, it is said that there are fewer cases of delirium tremens than in this country, but more cases of mental deterioration. Our own cases were too few from which to draw conclusions. There were only four who denied drinking any other form of liquor than beer, and of these four, three had acute curable types of alcoholic insanity. Our cases in which a history was available were tabulated as regular and periodical or spree drinkers. We found no connection between the manner of drinking and the type of insanity, but found the percentage of regular drinkers much in excess of the spree drinkers.

In 78% of our cases of alcoholic insanity there is a history of insanity or its equivalent, that is, epilepsy or other psychopathic conditions in the ancestors, so undoubtedly many alcoholics start life handicapped. They inherit weak, nervous systems, and so consequently weakened will powers, which make them victims to the alcohol habit. In fact, the abuse of alcohol may be said to be retroactive—alcohol leads to defective offspring who in turn become alcoholic. The final result is degeneracy both mental and physical.

There is perhaps too great a tendency to attribute to alcohol all poverty and degeneracy, yet its abuse nevertheless does play a large part in filling our institutions for the insane, the epileptic and imbecilic. In the Michigan Asylum we find in compiling our statistics for the past two years that 25% or one-quarter of our admissions are committed as the direct result of alcohol and syphilis. This, of course, does not take into account the large number of cases in which alcohol or syphilis has played a secondary part either by inheritance or

otherwise, so it would not seem unreasonable to assume that at least 40% of our admissions come to the hospital as the result of these two conditions, both of which are preventable.

In past years the temperance movement has done a vast amount of good, but its leaders have more often approached the question from the sentimental, economical or religious point of view rather than from the standpoint of the physiologist or psychiatrist. It is time that physicians more generally took an active part in prevention by educating the people to the dangers of the abuse of alcohol, as they are doing to prevent tuberculosis, typhoid, syphilis, etc. In fact, we, in this country, ought not to be behind our co-workers in foreign lands. In Germany so strong is the feeling in certain sections against its abuse that some of the large hospitals are not using it medicinally. Indeed, it is doubtful under the present teachings of our pharmacologists if we are justified in prescribing it. Dr. N. S. Davis many years ago claimed that it was of little use medicinally. In France placards are used, which by pictures and simple language instruct the people that alcohol produces mental diseases and degeneracy. In England and other countries we find similar movements. In this country Dr. Benjamin Rush was one of the first to point out that it produces mental disease, and since his time a number of notable physicians have advocated similar ideas. Dr. Peterson, professor of psychiatry and former president of the New York Lunacy Commission, has even gone so far as to have printed on the back of his prescription blanks, "Alcohol is a poison. Some claim it is a food, but if so, it is a poisonous food." This method of expressing his point of view may be extreme, but at any rate it shows the estimate in which alcohol is held by one of our prominent psychiatrists.

The fact that so many drunkards start life handicapped, having inherited nervous systems not capable of bearing strain or temptation, should bespeak better care for this class of people. They should be treated more like sick persons and less as criminals. The frequent arrests and short jail sentences in the majority of cases are of little use. The drunkard is retained only until he sleeps off the effects of his debauch, and then goes out, perhaps to perpetuate his kind. Michigan, as New York City and the State of Massachusetts have already done, should provide a farm or institution where habitual drunkards can be cared for and treated under medical guidance. Such an institution would, in time, be practically self-supporting, and would eventually relieve the asylums of a number of its chronic insane. Some years ago a statute was enacted in Michigan providing for the admission of habitual drunkards not insane to the State asylums, the length of their detention depending on the discretion of the superintendent. Under this act quite a number were admitted, and derived considerable benefit. A few years later a general insanity law was passed, which repealed, though not by the intention of the framers of the law, the Special Inebriate Act. Consequently this class of unfortunates has no provision for its care. It happens occasionally that habitual drunkards, on account of their quarrelsome and dangerous tendencies, are admitted as insane, but after reaching the asylum they clear up in a few days or a week, and must be discharged, much to their detriment, there being no law to detain them. Providing for their care in asylums was a step in advance, but such alcoholics that cannot be adjudged insane would be more properly cared for in a separate institution, where they would not be compelled to mingle with the insane.

OPERATIONS FOR THE RADICAL CURE OF INGUINAL AND FEMORAL HERNIA UNDER LOCAL ANESTHESIA*

J. A. MacMILLAN, M. D.
Detroit, Mich.

Only about ten per cent. of those who suffer with inguinal or femoral hernia submit to operation for its cure, and when it is considered that over two million people of this country have one or other of these forms of rupture it is clear that a very large number of patients prefer to endure the distress, pain and danger of this deformity rather than undergo an operation for its cure. Inguinal hernia is more common than appendicitis and gallstones together, and while it does not produce so high a mortality there is a definite death-rate from strangulated hernia. It has been concluded from carefully compiled statistics that the working efficiency of individuals with rupture is thereby impaired from 15% to 50%. Then, in addition to the pain and bodily distress, there is always a certain amount of worry and in many cases a morbid sensibility, directly traceable to the hernia.

A consideration of these facts, along with a knowledge of what surgery can do for these cases, has brought the medical profession to be almost unanimous in advising operation in every case. Now the fact is briefly this: ninety per cent. of these patients do not take this advice. They keep on with the rupture and truss. Several circumstances can be mentioned that account for this decision against medical counsel. In a few instances the expense of the operation, or the possibility of recurrence, or the length of time required for the cure, may prevent the patient from accepting the benefits of an operation. However, in many cases the dread of a general anesthetic is what stands in the way. The prospect of complete narcosis arouses in the patient's mind considerable apprehension, not only of the loss of consciousness itself, but in addition to this, of the magnitude of the operation. Then, it cannot be forgotten that general anesthesia does claim its mortality, and death from anesthesia is as liable in operations for hernia as in those in which the patient's life is already jeopardized by disease. Not a small factor in this connection is the strain that is put upon the sutures by the vomiting after the anesthetic.

In order to perform a herniotomy successfully under local anesthesia, an attention to details and to a refinement of technique is required beyond that usually practised when general anesthesia is employed. The preparation of the patient is the same as when ether or chloroform is to be used. One half-hour before beginning the operation a quarter of a grain of morphine and one one hundred and fiftieth of atropine is to be given hypodermically. The cocaine to be used should be sterile. It can be obtained in crystal form in sealed bottles, but can be readily sterilized by dry heat, or the solution boiled. The strength of the solution used varies considerably, but there are certain limitations beyond which it becomes dangerous or ineffectual. A one per cent. solution is liable occasionally to produce toxic effects, and, on the other hand, when the dilution reaches one in a thousand it

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produces little or no anesthetic effect beyond that obtained from the use of sterile water. I have found that a grain to half an ounce gives very satisfactory results. A weaker solution would produce anesthesia of the skin if it is injected endermically, so that the cutaneous structures are distended. An incision made through the skin while thus distended is painless, but sensibility returns within a few minutes, and the patient experiences a soreness during the latter part of the operation. In addition to this the introduction of the skin sutures is very painful. A solution of one in five hundred will produce anesthesia of the skin that will persist throughout the operation, and I believe this is the strength used by Bodine. In the subcutaneous tissue where the solution produces no tension, it must be used stronger, while a very weak solution is sufficient to produce nerve-block.

A row of injections should be made into the skin the whole length of the line of incision. The injection should begin in the skin at a point corresponding to the outer margin of the internal ring, and should extend down to the base of the external ring. As soon as the whole extent of the line for the incision is completed, the incision should be made with one stroke extending completely through the skin. The procedure of making an incision through the skin with local anesthesia is well known to you all, but a degree of perfection is required beyond the ordinary when it is to be followed by a prolonged operation. There are a few details worthy of note:

1. Touch the skin with pure carbolic acid where the initial puncture is to be made with the needle.

2. The re-insertion of the needle when it is made to continue the injections should be in the margin of the area already anesthetized.

3. The solution should be injected into the skin, not under it.

4. The knife should be sharp.

5. The incision should extend from a point in the skin corresponding to the upper margin of the internal ring to a point opposite the lower margin of the external ring.

6. The skin should be completely divided by this incision, so that the wound will gape and expose the subcutaneous tissue.

Having thus divided the skin, we approach the second stage of the operation. All the structures covering the canal and sack are extremely sensitive, and the application of cocaine solution or its injection into it will not produce anesthesia. It is therefore necessary to apply the local anesthetic in some other way. This can be done by nerve-block.

It is a unique feature of the surgical anatomy of inguinal hernia that the trunk of the nerve that supplies the whole field of the operation is readily exposed after the first incision. This is the ilioinguinal nerve. Occasionally there are two nerves, but they always have the same direction and bear the same relation to surrounding structures. The second step of the operation is to find this nerve trunk and to inject some of the solution directly into its sheath. In order to do this some of the solution is to be injected into the tissue about the internal ring. The fibres of the external oblique are then to be exposed and divided so as to expose the internal oblique muscle. The fibres of the external oblique are raised and drawn upward. The ilioinguinal nerve will be found lying upon the internal oblique, passing downward and inward into the inguinal canal. Some pain may be experienced in this procedure, for the solution when injected into the tissue about the internal ring causes no distention, and accordingly the narcosis depends entirely upon the cocaine present. With the weaker solutions, one in five hundred and one in a thousand, there must be very sharp pain. The nerve is easily identified

as a gray cord crossing the red brown muscle fibers. It can be taken in the fingers and the needle inserted without pain. Sufficient fluid is to be injected to distend and whiten the sheath. When this is done, all the structure in the whole surgical field are immediately and completely anesthetized. While this is exactly what must be expected from a knowledge of the ilioinguinal nerve and its distribution to the inguinal region, it strikes one as being almost wonderful when it is first practically experienced. The narcosis permits a thorough operation with no pain. However, dragging upon the muscles, vessels, or other structures is painful, but this is not necessary. There is one structure that is not anesthetized by the nerve-block: that is the sac. However, it is not the source of any pain unless handled very roughly. Before it is ligatured and excised some of the cocaine solution should be applied to its inner surface. This will make the procedure painless.

I believe the anesthesia will suffice for any of the recognized methods of operation, but I have never tried any method in which the cord is removed from its normal position. It is allowed to lie in its original bed.

To revert to the regular scheme of the operation, the third step is the exposure and separation of the sac, the opening of the sac, and the liberation and return of its contents, if any, and finally the application of the ligature and excision of the sac as described. The fourth step includes the remainder of the operation, that is, the suturing of the structures that formed the covering of the canal, the internal oblique to Poupart's Ligament, the reuniting of the fibres of the external oblique, the approximation of the subcutaneous tissue, and the closure of the skin. The narcosis permits the replacing of these sutures thoroughly, painlessly and without any inconvenience.

My experience with this method of operating for inguinal hernia has only extended over a year, and does not include very many cases, but the results have been very satisfactory. One of my earliest cases was a patient of Dr. Walsh, of Florence, Ontario. It was an inguinal hernia of about twenty-five years' standing, and although the sac was very adherent and thickened, it was separated and the operation completed with little or no pain.

Not the least of the advantages to be derived from the local anesthetic is the relief from anxiety experienced by the patient when he is informed that it will not be necessary to administer a general anesthetic. However, there are a certain number of cases in which a local anesthetic is not suitable, viz.: 1, Certain nervous patients who have nervous chills and are otherwise unable to remain quiet during the operation. 2, Patients in whom there is a large amount of subcutaneous fat. 3, Children.

The distribution of the nerve supply to the surgical field of femoral hernia does not permit the use of nerve-block, but nevertheless the operation for its radical cure may be done thoroughly and with little pain by the use of cocaine anesthesia. The reason for this is the fact that the radical operation for femoral hernia requires but little cutting and the structures divided have but a scanty nerve supply. The local anesthesia is obtained in the skin in the same manner as in the inguinal hernia. For the fascia and subcutaneous fat a one per cent. solution serves very well. This may be applied as the sensibility of the tissue demands. The sac should be opened as soon as separated, and can then be readily narcotized by an application to its visceral surface. The sac can then be transfixed and excised painlessly. In closing the canal the deep fascia is attached to Gimbernat's Ligament, the superficial fascia and subcutaneous tissue drawn together and the skin closed.

In the great majority of cases the results of the operation for the radical cure of either inguinal or femoral hernia is satisfactory, but it is the object of this paper to advocate the use of local in place of general anesthetic in a larger percentage of cases.

For the reasons given at the beginning of this paper, I believe that the operation of choice is the operation under local anesthesia. There is one class of cases in which the demand for local anesthesia is, I believe, almost imperative—that is strangulated hernia. In these cases the depressed or collapsed condition of the patients is such that the administration of the general anesthetic undoubtedly contributes to the high mortality attending this operation.

Discussion

Dr. John Reycraft, Petoskey.—We are having very little discussion upon any of these papers, and for that reason I think the doctors should take them up and discuss them. A paper so good as the one Dr. MacMillan has just read should not be gone over without discussion. The people are afraid and unwilling to be operated upon under a local anesthetic, and with a good half of the profession, we will find that they would not be willing to operate if they were compelled to take the course the doctor has spoken of. If the doctor gets his patient under a general anesthetic, he is in better shape to proceed with the operation. The experience I have had with hernia is that if you come to dissect a sac, when you have tied it off and make some cuttings on the inside, you are not going to be satisfied, because your patient wiggles like a serpent almost on the table, and I don't see why we should depart from the old idea of giving the old general anesthetic and take up this new fad of using local anesthesia, if we can use H. M. C. tablets and have our patients quiet, and find no harm in it. I use it a great deal in No. 2 and 3. If we can get them under a general anesthetic we avoid all this trouble that the Doctor claims. It is a mighty easy thing after one tablet is given. I don't see why the Doctor has departed from the old line of procedure, and if he can show me where he can do this without a great deal of harm I will submit readily to his findings.

Dr. Louis J. Hirschman, Detroit.—Dr. Reycraft has stimulated me in getting up and making a few remarks as to the use of eucain, and I want to make a confession. If the *substitution of local anesthesia for general anesthesia* is a fad, then I am decidedly a *faddist*. It is much easier for the surgeon to operate on a patient under a general anesthetic, we all agree with that; but it is not so easy for the patient. Many patients have been operated on for so called trivial troubles under general anesthesia where we have had occasional deaths from post-operative complications, such as nephritis and pneumonia. There has been a demand for a local anesthesia so that we can still further reduce mortality on surgical operations. I am glad Dr. MacMillan has read this paper, and glad to see that he has "risen up" in the profession, as it were. Starting out with the adoption of local anesthesia in rectal surgery, he is now with the pelvic and abdominal men, and we hope he will soon go up still higher. There is no question that the men in the medical centers are using local anesthesia not only in rectal work, but once in a while taking out an appendix, where nitrous oxide is not available, and thus occasionally saving a life. Any one who can do as good an operation with local anesthesia as under general is doing a distinct service to the profession by bringing out the fact, and if he is a *faddist*, then give us more *faddists* of that kind.

Dr. W. H. Belknap, Greenville.—I have listened with pleasure to this paper on local anesthesia. I think, in certain cases, it has a decided advantage. I wish to mention a case: a lady seventy-four years old, practically moribund from heart disease for two weeks previous, came to the hospital with a strangulated inguinal hernia and was unfit for a general anesthetic. I used 30 minims of codrenin. Anesthesia was complete and healing perfect.

I am in favor of local anesthesia in suitable cases, also nitrous oxide and oxygen as a general anesthetic.

Dr. J. A. MacMillan, Detroit (closing discussion).—I wish to state that Dr. Reycraft will be surprised to find how easy it is to locate the ilio-inguinal nerve. After its sheath is injected with the solution, the surgical field becomes anesthetized immediately. It does not usually suffice for the sac. In some cases after the nerve-block the patient experienced no pain when the sac was amputated. However, it is a simple matter to open the sac and apply the solution near the neck.

DIAGNOSIS OF SURGICAL DISEASES OF THE KIDNEYS AND URETERS*

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Assuming that every surgeon has a thorough knowledge of the general anatomy of the kidney, I shall dwell only on some of the minute structures of this gland, which will be alluded to in the general surgical conditions under description. The kidneys lie behind the peritoneum, and are surrounded by a mass of fat and loose areolar tissue, which constitutes the fatty capsule, consisting of two distinct layers—the transversalis layer of fat and the deeper or true perinephric fat which completely surrounds the kidney; between these two is a layer of connective tissue known as the retro-renal fascia, posterior surface. The fascia prerenalis, anteriorly, named by Gerota, is very marked on left side of body, associated with retro-peritoneal tissue of the descending meso-colon; these fascia join along the convex border. The retro-renal layer is lost in the periosteum of vertebral column, while the pre-renal layer passes over the abdominal vessels to be continued on the other side of the body. The two layers form the third capsule of the kidney—*fascia renalis*. Anteriorly it lies close to the peritoneum, and posteriorly it is connected with sheaths of psoas and quadratis lumborum muscles. On the inner margin of these muscles the union between the fascia renalis and muscle sheaths is firm. This *holds the kidney* in place,—outside of this tissue is supra-peritoneal or peri-renal fat. The vessels also help to hold the kidney in position. The true capsule covering the entire organ passes over the margin of the hilum, enters the interior of the kidney, and covers the walls of the sinus. The sinus or central cavity being lined with a prolongation of the fibrous coat of the kidney, enters through a longitudinal fissure, the hilum, which is situated at that part of the cavity not surrounded by kidney structure. Through this fissure the blood vessels and excretory duct pass. The duct, or ureter, after entering, dilates into a funnel-shaped sac, the pelvis, which divides into two or three tubular divisions which, in turn, subdivide into smaller divisions called calyces renales.

The blood vessels after passing through the hilum are continued in the sinus or central cavity, lying between the lining membrane and the excretory apparatus before entering the kidney substance. This is the usual course of the renal vessels, but sometimes a separate artery enters directly into one or other pole, which explains why in a removal of a kidney patients sometimes die of hemorrhage, in spite of the ligation of all the vessels entering the hilum.

Let us dwell briefly on the methods of examining before taking up the surgical diseases referred to in the enunciation. While it is almost impossible to make a direct examination of the kidney, that is, by inspection and palpation, owing to the fact that it is hidden or obscured by the ribs and viscera, yet these two methods are not accorded the attention that is due them;

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in every instance inspection should constitute the first step in determining the nature of a surgical disease. Inspection should be carried on with the utmost precision, the surgeon noting carefully any swelling, growth or ecchymosis from traumatic causes.

The second step in the process of examination is palpation. This is an extremely important factor in differentiating the abnormal form from the normal.

The posture of the patient while undergoing bimanual examination should receive the careful consideration of the surgeon. The best results are obtained when the patient assumes a position with the trunk at an angle of 135°, with the legs horizontal, and the back supported by the leaf of the examining table. The head and trunk should be supported well, so that the abdominal muscles may be relaxed so as not to interfere with the examination. The patient is told to breathe naturally, so that during the palpation the fingers may sink deeper until the lower end of the kidney is felt. If a kidney is enlarged or swollen to any degree it may be palpated, since any enlargement will cause the lower pole to project further down than normally. Where there is marked enlargement there may be a neoplasm, a tuberculous kidney, a pyonephrosis, or a hydronephrosis. The upper portion of the kidney being fixed, the tumor extends in the direction of least resistance, namely, in a downward direction, rendering it easily palpable.

In order to differentiate these difficult surgical diseases one must rely, as much as possible, on the method of palpation. With a cultivated sense of touch, or tactus eruditus, a great deal may be accomplished in the way of facilitating confirmation of diagnosis by other means.

If a kidney is enlarged and the surface is rough and hard, a malignant tumor may be suspected; or if it is large and has a rounded, smooth surface, the pathological entity may be an adenoma, uronephrosis, pyonephrosis, or an echinococcus cyst. Fluctuation will indicate fluid accumulation; although an echinococcus cyst may be mistaken for solid tumor.

Much difficulty is experienced in determining whether a tumor belongs to the kidney or is attached to the liver, or whether it is so-called corset liver projection. Frequent palpation and also an effort should be made to establish the relation of the colon. A tumor of the left kidney must lay behind the colon. The expedient of inflating the colon with air is a very reliable procedure, as it causes the inflated portion to intervene. The ascending colon does not always pass in front of the right kidney, but in some cases it crosses over the lower pole of the right kidney, so that the inflation test may be resorted to in this case. Again in the left side, tumors of the spleen and those of the kidney are most perplexing, and we are compelled to depend solely on bimanual palpation in a splenic tumor. It can usually be associated with tuberculosis. The hilum of the spleen can be felt at the umbilicus by a marked depression above the umbilicus. When in tumors of the kidney a hard nodule is felt in the area corresponding to the pelvis, it is most likely a calculus. If the kidney is enlarged and the border is felt as a firm, irregular mass, it is pretty evident you have a malignant tumor.

When the kidney is large but maintains its normal shape, with the surface smooth or slightly bulging, the condition may be calculus, pyonephrosis, hydronephrosis or tuberculosis. Before the discovery of the X-ray the location of calculi in the pelvis of the kidney was a very difficult matter. Now by means of the Roentgen Rays the diagnosis of stone in the kidney may be made with greater accuracy. Calculi may form in any part of the kidney, though the

renal calices and the renal pelvis are the most frequent sites of their formation. A calculus forming in the renal parenchyma is small and shaped like a pea or bean; if it forms in the calices, it is large and has a rounded shape; if it develops in the ureter it has a long cylindrical form like a date seed. Hence the form of a calculus is determined by the shape of the viscus in which it is imbedded. In about one-half the cases a kidney has a single stone, and in one-third of the cases more than two stones.

The different kinds of calculi give different degrees of shadow in radiography. A calculus composed of oxalate gives a very sharp shadow; one composed of urates or uric acid a shadow less well defined in outline, while calculi composed of soft phosphates give almost no shadow, in which way they resemble biliary calculi.

In no other part of the body may a diagnosis of pathological conditions requiring surgical intervention be made with greater precision and certainty than the kidneys and ureters. This is made possible since the introduction of such mechanical agencies as the cystoscope and X-rays already mentioned. The latter, of course, have their wonderful usefulness in the diagnosis of calculus of the kidney and ureter. Sometimes, however, a shadow may be misinterpreted, as in the following:

I. Phleboliths. II. Intestinal impaction. III. Foreign bodies in the intestinal tract. IV. Bullets or shot in the soft parts. V. Calcified structures. VI. Imperfections in the photographic appurtenances.

All of which have a tendency to confuse the diagnosis. Probably the phlebolith is the most common object which confronts the surgeon; a phlebolith is always round, while a calculus is cylindrical, the latter shaping itself in confirmation with its environment. An instance has been reported where an operator got a beautiful shadow. An exploratory operation was made but no calculus was found, the radiograph being that of a mole on the patient's back.

Cystoscopy occupies an important place as a means of determining an obstruction in the ureter, and also the functioning of each kidney, showing which organ is discharging pus or blood; this instrument is valuable as a means of determining which pelvis contains residual urine. Sometimes, however, the technique may be interfered with by certain features or peculiarities in structure of the ureters, as a diverticulum or a kink in the ureter due to pressure from a division of the renal artery.

Blood in the Urine.—To determine the source of this abnormal feature it is necessary to wash the bladder; if, after a period of a few minutes, the water comes away clear, it is quite evident that either the ureter or kidney is the source of the hemorrhage. The bladder is partially filled and the cystoscope is introduced, the fluid (ureteral) carefully inspected, when it can be observed which ureter is emitting the blood. The question arises, what is the cause of this blood? It may be stone in the kidney, tuberculosis, neoplasm or result of a recent catheterization. The X-rays are now called into play, but while many times the results are negative, the condition may be still surgical.

In addition to the aforesaid pronounced cases, hemorrhage may be due to the following: (*a*) Overfilling of the kidney with blood caused by strenuous exercise, and regarded as a result of venous congestion. (*b*) Hemorrhage occurs with uronephrosis. (*c*) Traumatism. (*d*) An old interstitial inflammation, or parenchymatosis.

If hemorrhage be present as determined by the tests for occult blood, it is, in all probability, due to parenchymatous inflammation.

While we have pain, hemorrhage and enlargement of the kidney in tuberculosis,

these are symptoms also in evidence in calculus or neoplasm. Tuberculosis may follow the development of a calculus, or vice versa. The tuberculin test seems to be resorted to in many clinics. The effect of the employment of this test is a marked increase of tubercular bacilli in the urine and a marked tenderness over the affected kidney.

Kidney tuberculosis is most generally primary as compared with that of the bladder. If there are evidences of tuberculosis in the bladder, these are usually secondary. Another feature to arouse one's suspicion of tuberculosis of the kidney is the appearance of the ureteral openings and the surrounding area; the ureteral opening in tuberculous conditions is rigid and non-contractile, which in every instance is indication of disease, as in a normal ureteral opening the contractions are easily observed. By means of the ordinary examining cystoscope we can determine which kidney is diseased (tubercular) by the appearance of the ureteral orifice—which is always large, thick, ulcerated and covered with red granulations. In conclusion, a diagnosis of renal tuberculosis can be made by the cystoscope alone, notwithstanding the absence of tubercle bacilli in the urine.

A calculus may be present in the kidney and yet cause no particular disturbance to the patient, but is probably due to the fact that the inflammatory process is aseptic; on the contrary, if there exists a suppurative condition due to an infection, the symptoms are very marked. If the calculus obstructs the urine, or if it lodges in the ureter, the pain is most pronounced. In cases of this type radiography and palpation and the ureteral catheter are the means of determining the precise nature of the condition.

If calculus is located in the parenchyma of the kidney with an acute inflammatory process due to venous distention, the painful attacks are continuous until the calculus worms its way through the capsule or is forced into the pelvis of the kidney.

Another common symptom of calculus in the kidney is hemorrhage. If the amount is scanty the microscope will determine it. On account of its irregular borders, a calculus in the pelvis of the kidney may erode a branch of the renal artery.

It has been observed by different writers that many times in cases of anuria on one side a sympathetic condition will develop on the opposite. There still exists, however, a difference of opinion on this point. In the case of one kidney performing its excretory function and the other being under suspicion, a test should be made as follows:

Inject $\frac{1}{4}$ c. c. of 4% solution of indigo-carmin in the quadriceps muscles; in ten minutes it will be noticed which ureter is discharging, since the blue will appear in the time stated; also it enables one in finding the ureters. This enables the surgeon to estimate the reserve power of the kidney. This drug is eliminated by the kidney alone. This agent is regarded as non-toxic, and passes through the body as in a normal physiologic process. It has been my privilege to see this demonstrated a number of times; the appearance of the color in the ureter excretion was usually prompt, seldom exceeding ten minutes. The test is infallible.

The fatty capsule, surrounding the greater portion of the kidney, with all its protective features, is by no means invulnerable. Its blood and lymph vessels are intimately connected, if not anastomosing, with those of the kidney itself. It can be easily understood that an inflammatory process in the kidney may extend to the fatty capsule through the blood channels. Infecting material may travel through the capillaries into the urinary tubules and may also pass through the capillaries in the fatty

capsule. Further, a suppuration may invade this fatty structure from a neighboring pathological process. From the foregoing it is apparent that there are two types of suppuration about the kidney; the one arising from known renal infection and the other taking its origin from exterior causes, such as a traumatism or a suppurating empyema, or suppurating appendix. However, perinephric disease in many instances is result of bacteria entering the lower renal tract, emanating from an old prostatic disease, diseased testes or an infection of the urethra, all of this making the sources of infection in this fatty structure manifold. Now how can we tell when we have perinephric abscess? There is generally a fixed point of tenderness in the so-called triangle of Grymfelt, an area bounded by the erector spinæ muscle, twelfth rib and the internal oblique. This space will be filled out on the affected side, and the abscess will be readily recognized with the patient in the sitting posture. The other symptoms consist of swelling, tenderness on palpation and immobility, and in the advanced conditions, edema of the overlying structures, and sometimes a pointing or fluctuation. An aspirating needle may be resorted to in doubtful cases. The origin of the abscess may be obscure.

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Discussion

Dean Loree, Ann Arbor.—There is one thing in connection with Dr. Matthews' paper which I would like to discuss, and that is the diagnosis of renal tuberculosis. As the Doctor has well said, tuberculosis is rarely primary in the bladder. Having demonstrated tuberculosis of the bladder, we must then ascertain its primary focus. If it is in the kidney, the other one being healthy, that kidney will, in all probability, have to be removed. I cannot agree with Dr. Matthews that we are justified in removing this kidney from the cystoscopic picture alone.

The early manifestations of renal tuberculosis are from the bladder, and rarely from the kidney itself; for instance, the very first symptoms in ninety-nine out of one hundred cases begin with frequent and painful micturition. These patients should never be discharged with a urinary antiseptic and an irrigation for the bladder, but must be followed up—they must have a careful chemical and bacteriological examination of the catheterized sample of the bladder urine, and in a certain percentage of these we will be able to demonstrate tuberculosis. Tubercle bacilli can be demonstrated by the ordinary staining methods in about eighty per cent. of tuberculous urinary sediments. We most resort to the inoculation of guinea pigs for the remainder.

There is one other point in the diagnosis of renal conditions that I think the Doctor did not mention; that is, the measurement of the kidney pelvis, demonstrating not only a hydronephrosis, but also the size and condition of the pelvis. I might describe the tecnique (chairman interrupts. time is up).

Dr. Matthews (closing).—The condition known as hydronephrosis, which I alluded to, only incidentally, is the result of a partial or complete obstruction of the ureter. A kink in the ureter, caused by the pressure from a crossing renal vessel, or the occlusion, may be due to a stone impacted in the pelvic opening of the ureter. I am glad the Doctor concurred with me in regard to the manifestations about the ureteral orifice as diagnostic of renal tuberculosis.

The next Annual Meeting of the Michigan State Medical Society will be held in Detroit September 27-28, 1911

PELLAGRA*

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Pellagra was earliest known in Northern Africa, where it is found still, in Egypt and Algiers. In 1735 it was recognized in Spain. It spread to Portugal and Italy. To-day all Southern Europe, especially Italy and Roumania, suffers from this disease. There are between fifty thousand and one hundred thousand in these two countries alone, a large number of pellagrins being found in the insane asylums.

Forty-five years ago two cases were recognized and reported in the United States, —one in New York and one in Massachusetts.

From that time until 1906–7, pellagra either did not exist or was unrecognized in the United States. In the last two or three years, however, a large number of cases have appeared in sixteen or more states, mostly Southern. Between five thousand and ten thousand cases have been recognized, a large number probably going unrecognized.

ETIOLOGY

I. Predisposing

(*a*) Intrinsic.

1. *Race.*—Seems to play no rôle.

2. *Age.*—All ages are affected, adults more commonly than young subjects.

3. *Sex.*—Has no influence.

4. *Heredity.*—There is no family transmission or occurrence which cannot be better explained by environment or habits than by heredity.

5. *Previous Disease.*—Has no influence except, perhaps, as it may bring about a general weakened state.

6. *Previous Habits.*—Alcoholism is a positive factor. At one time some observers believed this to be an essential cause. Any habit or practice which results in general lowered vital resistance is a predisposing agency.

(*b*) Extrinsic.

1. *Occupation.*—Any occupation which is accompanied by poverty or insufficient nutrition is affected. Cases from a large range of occupations have been reported.

2. *Habitation.*—As before stated, Northern Africa, Southern Europe, Southern United States, especially the Gulf States, furnish the large majority of the cases. An occasional case appears in the North which cannot be traced to any Southern origin.

3. *Season.*—Cases have begun in every month,—the largest number in the spring and fall months,—the month accredited in the most cases (beginning) being, I believe, November.

4. *Social Condition.*—The poor are most commonly affected. The well-to-do are practically immune, so it is said. Any case appearing in the middle classes must be traced to some other source of poor nutrition.

II. Exciting

1. Mechanical traumatism or injuries seem to play no part.

2. *Chemical.*—Under this head may be classed the various ideas and theories about

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corn as the source of pellagra. (*a*) It was formerly held that corn was not a complete food. It would not properly nourish the body if used excessively in the diet. The malnutrition resulting was charged with causing the disease. (*b*) It has been held that sound corn itself contains a toxin. (*c*) Corn picked before entirely ripe may ferment, under the action of a non-pathogenic unknown organism producing toxins. (*d*) Autointoxication (intestinal) due to an intestinal mycosis, which attacks the corn (and possibly other foods) after eaten has been urged. By some observers pellagra has been designated a state rather than a distinct disease. Any cause of marked malnutrition might produce a cachexia which would present the picture of pellagra.

3. *Thermal.*—Sunshine, by virtue of its heat or, more likely, its actinic rays, has been charged with initiating the disease.

4. *Bacterial.*—(*a*) Several bacteria have been described as causing a specific intestinal infection. All of these have been discredited. (*b*) A generalized infection, brought about by intestinal infection, invasion of the blood and secondary infection of the lungs, pleurae, pericardium and pia mater of the brain and cord, has been suggested (Cerri).

5. *Parasitic.*—In proclaiming this theory, Sambon, its chief advocate, attacks the corn theory on the following grounds: (1) Pellagra is not found in many places where corn is used extensively. (2), It is found, on the contrary, where corn is not used or grown. (3), Pellagra is appearing in new places or decreasing in former strongholds without any detectible change in the dietetic habits of the inhabitants. (4), All proof of the corn theory is only philosophical, and nothing has ever been scientifically proven by proper experiments or observation.

Sambon's theory is that the disease is due to a protozoan parasite transmitted probably through a stinging or blood-sucking insect, possibly the sand fly or simulium reptans, acting as carrier.

This protozoan probably enters and inhabits the intestinal canal, causing the persistent diarrhea and producing from the food mass the specific (?) toxins which produce the psychical, nervous, motor, sensory and cutaneous symptoms.

It is interesting to note that out of 175 cases of pellagra studied at the Peoria State Hospital, 84.8% showed protozoal infection in the feces.

In twelve out of eighteen autopsies, ulcers in the colon were discovered.

In another series of fifty-two cases reported by J. D. Long, protozoa (ameba) were found in the feces in fifty.

Long also reports twelve cases studied in the Philadelphia Hospital for the Insane, in which amebae were detected in the feces in every case.

Pathology

1. *Cutaneous.*—The skin undergoes sclerotic changes (becoming leathery), atrophies at the affected areas, and shows a deposition of pigment, which persists even after the active dermatitis is relieved. The subcutaneous fat is largely lost as the person passes into a cachectic state.

2. *Circulatory.*—The cardiac muscle shows pigmentary and fatty degeneration.

3. *Blood.*—There is often a simple anemia of mild or moderate severity, but nothing characteristic.

4. *Nervous.*—Pigmentation of the nerve cells of brain and cord has been noted. The same has been observed in the spinal ganglia. Sclerosis and degeneration of various tracts in the cord has been seen by different observers,—the crossed pyramidal tract in the dorsal region, the column of Goll and the column of Burdach (Lombroso). The meninges of cord and brain have been found thickened.

5. *Osseous.*—Deposits (cartilaginous) on the articular surfaces of the vertebra, en-

croaching on the intervertebral foramina, have been described by J. D. Long (*Journal A. M. A.* August 27, 1910). This encroachment upon the nerves at their exits accounts for much of the rheumatic and neuralgic pain.

6. *Special Organs.*—Nothing specific.

7. *Lymphatic.*—The lymph nodes, especially of the abdomen, may be enlarged. The spleen may show fatty degeneration.

8. *Gastro-Intestinal.*—Atrophy of the muscular walls of the intestine and ulcers of the colon have been seen. All the abdominal organs tend to atrophy. The liver shows fatty degeneration. Catarrh of the gastro-intestinal mucosa.

9. *Genito-Urinary.*—The kidneys may show parenchymatous degeneration. Fatty degeneration has been reported. Urine negative.

10. *Respiratory.*—Pleurisy has been reported. The lungs apparently are not often affected.

11. *Muscular.*—The muscles undergo marked atrophy and wasting (cachexia) and gangene (decubitus) has been seen.

Case I. (Being reported clinically by E. L. Eggleston.)

Clinical Diagnosis, pellagra (acute), course two months. Died June 15, 1910, at 3 A. M. Autopsy at 11.30 A. M.



INTESTINES UNOPENED.

A. Distended lower duodenum and jejunum.
B. Cystic diverticula from upper jejunum.
C. Contracted ilium.
D. Distended and dilated caecum and colon.
E. Appendix, showing angulation near distal end.

PATHOLOGICAL FINDINGS

(*a*) *External Examination:*

Subject is apparently about sixty years old. Markedly emaciated—no scars of interest. Rigor mortis is complete. Hypostatic congestion on the back. The skin over the hands shows marked

thickening of the stratum corneum. Scales from bran size to size of cent can be easily lifted from the fingers. The neck shows a band of thickened, wrinkled and brown pigmented skin—complete except over and posterior to the left sterno-cleido-mastoid. This band is 1 to 1½ in. wide. There is no panniculus adiposus—the abdomen slightly retracted.

(*b*) *Internal Examination:*

1. *Head.*—No permission was obtained to examine the brain and cord.

2. *Thorax.*—a. *Left Lung* complete and firm pleural adhesions from the apex to the fourth rib and over the diaphragmatic surface. One indurated mass palpated in the apex (size of walnut).

b. *Right lung*, one band of firm adhesion binding the left anterior inferior corner of the lung to the diaphragm. Thickened pleural area (size half dollar) on anterior surface of upper lobe. Pleural scar on posterior surface of upper lobe. Anthracosis. No consolidation discovered.

c. *Great Vessels*—negative.

d. *Lymph Glands.*—Bronchial glands filled with black pigment.

3. *Mouth and Neck.*—a. Tongue, slight gray coating. Mucosa appears more red than normal post-mortem.

b. *Thyroid*, normal.

4. *Abdomen.*—Stomach and intestines in normal position. Omentum lying downward over intestines.

a. *Stomach*, dilated, the prepyloric sphincter is contracted showing the physiological division.

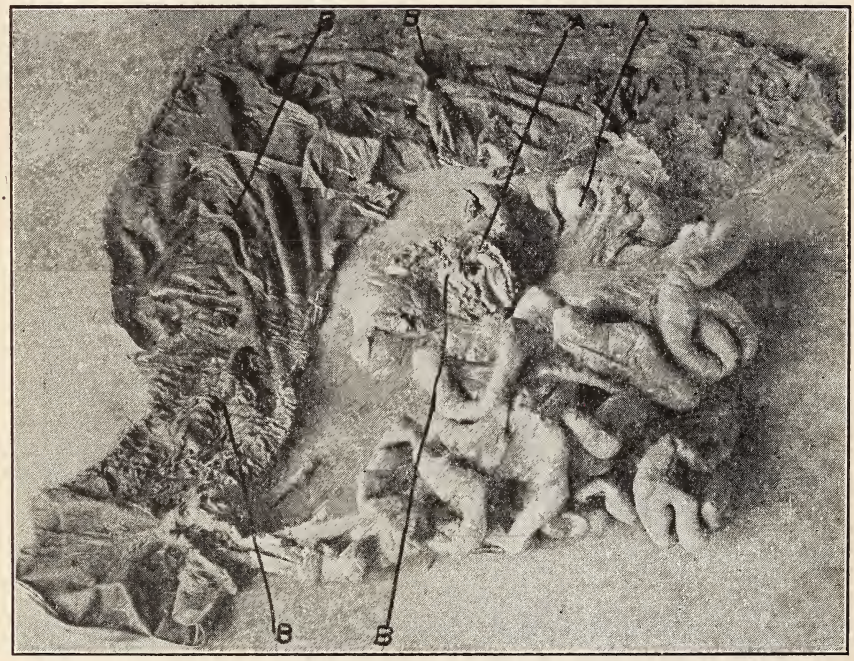
b. *Small intestine:* 1. Duodenum, normal. 2. Jejunum, relaxed and distended with gas; 10-15 scars or diverticula appear along the mesenteric side of the upper jejunum. These vary from size of pea to yolk of egg. 3. Ileum, empty and in state of hypertonic contraction.

No signs of ulcers outside or found later on section.

c. *Appendix*, retrocæcal pointing upward and inward. Three-fourths in. from distal end has an acute angulation (60%) which persists. No evidence of scar or adhesion. Otherwise normal.

d. *Cæcum*, distended and filled with pultaceous material.

e. *Colon:* Dilated to the middle of descending portion; contents gaseous and fluid. No ulcers were to be discovered along the colon or cæcum.



INTESTINES OPENED.

A. Cystic diverticula and opening into one of the largest. These appeared like congenital formations.
B. Smooth (non-ulcerated) condition of the intestinal mucosa.

f. *Sigmoid and rectum*, in a state of marked contraction, empty and not ulcerated.

g. *Mesentery and Omentum*, lymphodes are enlarged but not hardened.

h. *Liver*, quite soft, looks paler than normal, fatty degeneration.

i. *Gall bladder*, quite large, filled with bile, no stones, one old scar on fundus.

j. *Pancreas*, normal.

k. *Spleen*, normal.

l. *Left kidney*, many small cysts showing on the surface and cut section. Renal substance thinned.

m. *Right kidney*, similar.

n. *Suprarenal bodies*, normal, perirenal fat very scant.

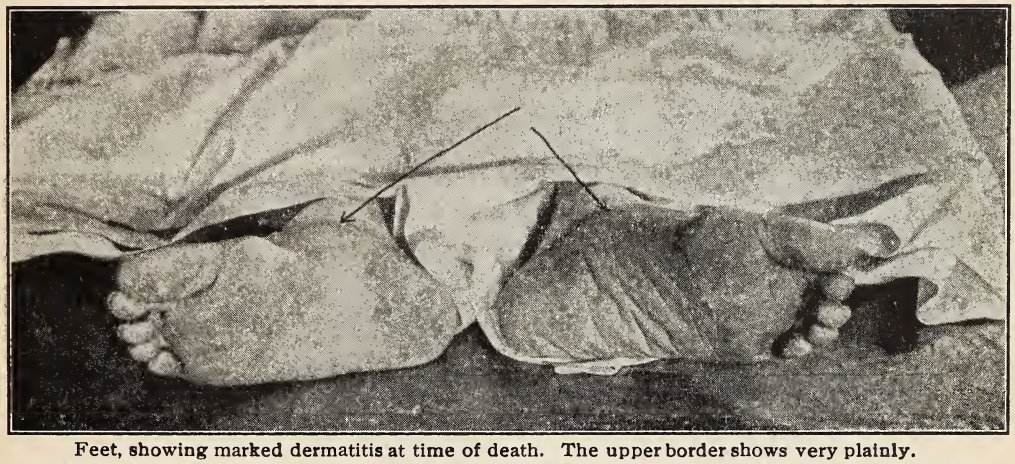
5. *Pelvis.*—Organs palpated and observed, but not removed. All negative.

ning of the muscle coats, the other shows an apparent thickening due to the hypertonic contraction of the intestine. The mucosa shows evidence of a catarrhal enteritis.

7. *Colon.*—No ulcers were to be found. The slides show a catarrhal colitis.

8. *Kidney.*—Cystic areas. Parenchymatous degeneration and fatty degeneration.

Case II.—The peculiar interest in this case lies in the fact that it is, so far as I have been able to learn, the first case of pellagra to find its origin in Michigan. The case ran an acute course such as the so-called "typhoid pellagra." The duration, however, was over twice as long as Case I (E. L. E.), and showed one typical period of abatement of symptoms. The onset was about April 1, 1910, and the demise September 18, 1910, five and one-half months. Recovery from acute



Feet, showing marked dermatitis at time of death. The upper border shows very plainly. Cutaneous Flakes. Showing nature of scales which were repeatedly cast off from the hands and feet.

MICROSCOPIC EXAMINATION

1. *Heart.*—Pericardium slightly thickened. Muscle cells pigmented. Fatty degeneration seen in areas. Muscle cells appear somewhat atrophic.

2. *Liver.*—Fatty degeneration in small areas. There is a diffuse deposition of small, dark brown granules. Around the central veins there is a collection of larger masses of light brown pigment.

3.—*Lungs:* (a) Thickened pleura. (b) Areas of partial atalectasis. (c) Area of connective tissue proliferation apparently an old scar; non-tuberculous. (d) Areas of partial consolidation and round cell infiltration.

4. *Thyroid*, negative.

5. *Mediastinal Lymph Node*, negative except for black pigmentation (anthracosis).

6. *Small Intestine.*—One section shows a thin-

pellagra is practically impossible. It is probable that there was an indefinite prodromal period of about three months before the apparent onset in April.

Clinical Review.—Mrs. X., twenty-five years old, married, housewife, American born, resident in Michigan for seven years or longer, never been South of Ohio River, nor out of Michigan in past seven years.

Family History.—Father (age fifty-four) and mother (age fifty-three) alive and well. Has six sisters all well; one sister died in infancy. Has two brothers, both well. Has two children (age four and two years), both well.

Personal History.—No severe diseases in childhood. When six years old she fell on to a chair post and suffered an injury of the vagina, which required surgical repair. Had leucorrhea quite

constantly ever since, and has never been strong or robust like her sisters. Has had several attacks of tonsillitis in past few years. One and one-half years ago she had reparative operations, perineorrhaphy, colporrhaphy, trachelorrhaphy, and the shortening of the round ligaments.

General Habits.—Having never been strong, her work has been rather heavy. Nothing but care of children and light housework, no worry out of ordinary, simple mixed diet. (Later inquiry elicited the information that she never used corn meal.)

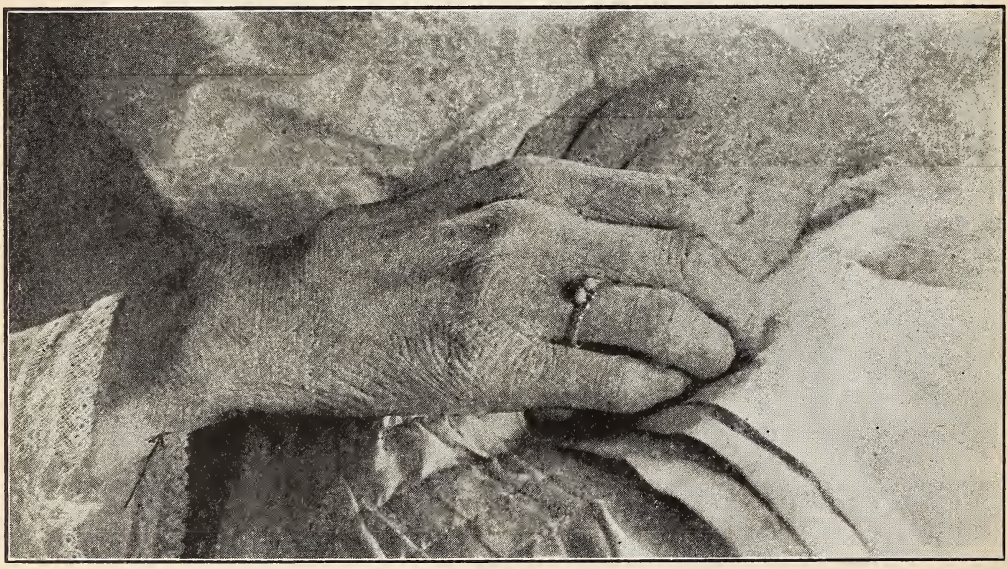
Present Illness.—Has not been as strong as formerly any time since her operation. Last December she weighed 110 pounds. Normal 115 pounds. She gradually lost to 96 pounds in March, 1910. Her appetite failed, she became weaker, and suffered from persistent constipation.

She consulted a second physician, who said he did not know what it was, as he had never seen anything like it. He prescribed a sedative lotion, which seemed to cause an improvement. He changed his treatment to a powder. The skin soon cracked and pus appeared in the cracks.

About May 25 her throat and mouth became sore and persisted.

On June 9 she came from Northern Michigan to Battle Creek. At that time she had sore mouth and throat, with mild degree of salivation, proctitis and vaginitis with creamy discharge. The day after she came she used some laundry starch in washing, and thought it made her hands much worse. She says she always had an idiosyncrasy for laundry starch. Every time she used it her hands became red and rough.

A vigorous laxative was given at this time to combat the persistent constipation. This ushered in a prolonged attack of diarrhea,—six to thirty movements per day, foul, fluid, with mucus flakes.



Hands, showing same. Thickening of epidermis, smooth skin on side of arm, showing border.

After Easter (early in April), her hands became quite generally "chapped." She thought this due to Easter dyes.

A few days later a red spot, size of half dollar, appeared on right forearm. She said it came on suddenly,—was not visible in forenoon but was noticed in afternoon. It reminded her of a sting; the surface was smooth. The eruption spread upward to elbow and down to finger-tips in two weeks. The same process then appeared on the left arm. She used some home lotions and ointments for a few days, and then consulted a physician. He pronounced it an eczema, and thought it would soon clear up.

About June 15 I saw her in consultation. At that time vesicles appeared between the fingers and over the backs of the hands. Simple ulcers on a red mucosa dotted the mouth. I concurred in a diagnosis of *dermatitis venenata.*

On June 17, the case was turned over to my care. Treatment for dermatitis venenata was continued.

The vesicles became pustular. An examination of the pus from the pustules, mouth and vagina showed pyogenic bacteria (cocci). A

vaccine was produced from the cultures. Under the vaccine (five injections at two day intervals) the pustules and vaginal discharge rapidly dried up and the mouth improved. The throat became practically non-sensitive. The diarrhea, however, became worse. Ptosis to a slight degree appeared about this time. She was extremely hypersensitive to artificial heat.

On June 20 her weight was eighty-four pounds and she was extremely weak. At this time a positive diagnosis of pellagra was made. Her weight sank to less than seventy pounds before death. She complained of nearly constant headache,—aching at the back of head and neck and dizziness upon standing or sitting upright.

We tried many of the recommended remedies, atoxyl, 1 gr. daily, Fowler's Solution, intestinal disinfectants, tannogen, beta-naphthol, bismuth subcarbonate, charcoal, sodium bicarb. calendula, and later (August 27) the anti-amœbic treatment suggested by J. D. Long in the *Journal A. M. A.*, August 27, 1910 (quinine rectal injections, salines and mercury and iodids alterative treatment).

By July 1 she had become so weak that she was ordered to bed. With only a short interval she remained in bed until her demise.

About this time the similarity of the bowel symptoms to those in typhoid impelled us to try a liquid low proteid diet. The extreme fetor of the stools, the frequency of movement and her general feelings improved. After a few days we introduced egg white and other proteids into her diet, and the foul odor and toxic symptoms reappeared. The antitoxic liquid diet was resumed. She complained of burning pain in the epigastrium (pyrosis) quite frequently. Her bowels moved as frequently at night as during the day. Later her boweis moved without warning involuntarily.

By keeping the hands covered and thus excluding the light, the dermatitis began to subside.

During the next three or four weeks she complained of passing spells of feeling "awful." Nothing could be observed by her attendants. Her description was one of fear, oppression, something about to happen. When interrogated in the interval she said she had nothing to fear, but couldn't help the spells. These periods varied in length and frequency. Her disposition showed some tendency to change toward depression and discouragement (not over her own disease).

She suffered with insomnia. Bromidia did not relieve. Neither did potassium bromide. Veronal (gr. X) did. Later trional was used with good results. Her mouth remained fairly clean, not showing anything like typhoid sordes. She suffered about August 1 with hiccoughing and vomiting two to five times daily for a period of ten days. The hands and arms were entirely clean, having desquamated several times. The skin was smooth, fairly soft, but remained somewhat pigmented. The dermatitis appeared, however, on both feet, the right side of the neck, the bridge of the nose, and under both eyes.

Early in August her bowel symptoms improved. Her appetite, feeling of strength, disposition and nervous symptoms also improved. She began to sit up, to take a few steps, and later to walk out to the table for meals. She was allowed only a very little solid food—as baked potato, rice and toast.

Her finger nails during the earlier weeks (June 9—July 15) began to show an increasing white growth (lunula). During the period of improvement (July 28—Aug. 15) new growth took on the normal transparent appearance. With the return of other symptoms the new growth again became opaque (white), giving the nail a striped appearance.

Her appetite again failed (August 15) and she returned to bed. She soon entered the final stage, one of cerebral (cortical), bulbar and cord irritation, resembling in some respects tetany and uremia.

The mental symptoms ranged from depression and melancholia to irritation and mania. These symptoms appeared paroxysmally, varying in frequency and duration. One whole day without cessation she raged in delirium, suffering delusions and hallucinations. Again she would scold her attendants for one or two minutes, and then apologize in the lucid interval. She knew what she did, but could not behave, so she said.

The motor symptoms of fibrillary twitching, intentional and unintentional tremors, tonic and clonic spasms, involved at various times the muscles of the entire body. At one time she would suffer facial contortions, or torticollis to left, right, anteriorly or posteriorly; at another time the muscles of respiration or forced respiration, very similar to the breathing of tetany, or at times like the breathing in uremic convulsions. Again the diaphragm would contract spasmodically; again the muscle groups of back, arms and legs. The gross spasms of the arms (for instance) were easily controlled, as a rule, by grasping the hand and elbow. Meantime, however, a constant tremor could be felt affecting all the fibres of the muscle group. This could not be controlled

except by opiates, and even then not completely at times. Tendon reflexes were exaggerated.

Her sensory symptoms were few. She complained of her ankles paining, of general soreness, of burning in the affected skin areas, and of extreme hypersensitiveness to heat. She thought even warm water was about to scald her. Cold felt grateful to her skin in general.

About September 1 her mind cleared and she did not suffer the mental symptoms again until September 10. The motor symptoms, however, were much worse. She had been quite talkative up to this period. She did not resume her loquacity in this quiet spell. She would remain dumb even when a simple question was repeated several times.

Her pulse was constantly rapid, 90-130. It was fairly full and regular up to September 6. After that date it was often thready. Heart and lungs negative. Her temperature curve was practically normal. No blood appeared in the stools.

At this time (September 1) the eruptions of the hands and feet, the sore mouth and throat and diarrhea reappeared.

By September 10 she became irritable again at short intervals. On September 11 she quieted down mentally. There were few mental outbursts, though she was seldom rational from that day forward. During the week her pulse ran thready, her muscles remained rigid, and the fibrillary tremor continued. Her lungs gave evidence of retained bronchial mucus and edema. She suffered an occasional respiratory spasm, followed by a short coughing spell. Her bowels became very tympantic. She died at 10.30 A. M. September 18.

As cerebral sedatives we resorted to potas. bromid., bromidia, chloral hydrate, veronal, trional, codeine, heroin, and morphine at various times.

Dr. A. S. Kimball, city health officer, Dr. A. W. Alvord, Member of State Board of Medical Examiners, several other local physicians, and three visiting physicians from the South saw the case in consultation. No autopsy was granted.

Several laboratory examinations of urine, blood and feces were made between July 1 and September 10. The essentials were as follows:

Urine: Quantity, 800-1000. Specific Gravity, 1017-1020. Total solids, 30-40 gm. Acidity, 1.20-1.50 (gm. $H_3 P_{04}$). Urea, 14-18 gm. Chorides, 7-9 gm. Indican, 100-128 (Folin scale). Indolacetic acid, xx. Diazo, negative.

The thing of interest is the indican and indolacetic acid reading,—the great quantity indicating excessive intestinal putrefaction. The microscopic findings were negative.

Blood: Hemoglobin, 80-90%. Red Cells, 81-88%. White Cells, 90-120%. Small lymphocytes, 25%; large lymphocytes, 4.5%; polymorphonuclear neutrophiles, 68.5%; eosinophiles, 1.7%; nothing out of the ordinary.

Feces: Daily amount could not be computed. Foul odor. Mucus shreds. Indol 5-7 m. gms. Bacteria, 3,316,150,000,000 (one count) per gram. Gram positive, 26.4%. Gram negative, 73.5%. Undigested food remnants. Bodies resembling ameba, but not showing typical movement. Occult blood test negative.

In the feces, the immense bacterial count, the large number of gram positive bacteria and the high content of idol are all significant of the source of toxin.

The observation of bodies resembling ameba is interesting, though it is to be regretted that a more positive laboratory conclusion could not have been reached.

PELLAGRA AS WE SEE IT IN ITALY. OLD AND NEW THEORIES, WITH REPORT OF CASES SEEN IN NEW YORK CITY

A. Caccini, New York, states that pellagra is not infrequent in the United States at present, and in some ways differs from the disease as seen in Italy. In the United States its course is more acute; in Italy it is more chronic and the erythema is much less marked. Sporadic cases have been seen in this country for a long time, and lately it has been spread widely in different States, assuming an epidemic character. It is relatively frequent in this country among the well-to-do classes, while in Europe it is limited to the poor farming population. Its essential cause is still unknown. One should not hastily discard the old theory that it arises from fermentation of corn, while one should look carefully into the newer theories as to its origin from a protozoon or other form of parasite. The author gives histories of eight cases seen by him in New York among foreigners, all of which had a very chronic development He gives a careful consideration of the newer theories, and the pathology and symptoms of the disease as seen in Italy and in the United States. There is a typhoid form of the disease. The insanity is of the depressed type with suicidal tendency.

—*Medical Record*, March 11, 1911.

PELLAGRA*

E. L. EGGLESTON, M. D.
Battle Creek, Mich.

The diagnosis of a well-developed case of pellagra is not difficult. With the cutaneous, gastro-intestinal and nervous symptoms well developed, a clinical picture is presented which is so characteristic that no one should fail to recognize it. In the earlier stages, particularly when the cutaneous manifestations are not marked, it is very difficult to make a positive diagnosis. In two of the cases which I wish to report, when the cases first came under my observation I failed to make a diagnosis of pellagra, although the later developments fully justified such.

Case 1. J. G., a man sixty-seven years of age, came under my observation May 5, 1910. The patient's home was in Linden, Wis., a locality in which one would hardly expect to find this trouble. The patient gave the following history:

His father died at the age of seventy-seven, of general debility; mother died at the age of forty, of cholera; two sisters died about the age of forty-eight, one of acute articular rheumatism and cardiac complications, and one of trouble incident to the climacteric; one brother died at the age of sixty-four, of Bright's Disease. The patient was rather frail as a child, but suffered from no serious illness; had an attack of rheumatism about the age of twelve; no history of venereal troubles. His occupation until 1880 had been that of a farmer, during which time he lived almost entirely in the open air. From 1880 to 1890 he worked in zinc mines. Had always been careful in regard to his habits, using neither liquor nor tobacco; his diet had always been abundant, and he had used meat quite heavily, eating it three times a day; used very little, if any, corn meal.

Two years ago his digestion became disturbed and he was annoyed by the formation of a large amount of intestinal gas; also noticed at the same time that his strength was below par. These symptoms developed in the early spring of 1909. During the later summer months and the winter of 1909 he made some improvement, but at the beginning of spring 1910 he complained of feeling very tired and had a great disinclination to work. About April 1st the backs of his hands became red and swollen; there was but little irritation, and this was of a burning nature not accompanied by pruritus. About the same time he noticed a looseness of the bowels, having from one to four loose movements a day. His appetite was very poor. Coincident with these symptoms he became somewhat depressed mentally, although naturally of a very optimistic temperament.

Physical examination: The patient was markedly emaciated, of a sallow complexion, marked erythema and swelling extending from the wrists to the ends of the fingers on the dorsum of the hands, the erythema ending abruptly at the wrists. The skin over the dorsum of the hands was thickened and somewhat fissured. The tongue was red and in spots seemed to be denuded of mucous membrane. Patient complained of the irritation incident to mastication of food. Examination of the lungs was

* Read at the Forty-fifth Annual Meeting of the Michigan State Medical Society, Bay City, September 28, 29, 1910.

negative. Cardiac sounds were weak. Abdomen markedly retracted; visible peristalsis observed over the greater portion of the abdomen. Succussion sounds were elicited over the stomach and cæcum. Stomach was greatly dilated, lower border being 2½ inches below the umbilicus; cæcum was dilated. The analysis of the blood was as follows: Hemoglobin, 95%; red cells, five million per cu. m. m.; white cells, nine thousand per cu. m. m.; systolic pressure, 140; diastolic pressure, 105; pulse, 78. The examination of the feces was negative as to ameba. There was considerable mucus and pus present. Urine analysis negative.

From May 5th until June 1st patient made very satisfactory improvement, being able to spend the greater part of the day in the open air. His appetite was good and he ate quite heartily. He had from one to two bowel movements per day of rather a loose character, but scarcely of a diarrheal nature. About June 1st bowel movements increased to four to six movements per day, of a very loose character. Coincident with this his appetite became very greatly deranged, and would occasionally be troubled with nausea and vomiting. From this on it seemed impossible to relieve him in any way, and his strength failed very rapidly. Patient died on the 15th of June. During the entire time he was under my observation there was no rise of temperature, the temperature usually being about one degree sub-normal.

Case No. 2. Mr. A. S. C., whose home is in Louisiana, first came under my observation in July, 1907, giving the following history: Father died at fifty-four years, as the result of an accident; his mother died at sixty years, unknown cause, death occurring suddenly when she was in bed. Patient has two brothers, one living, seventy-two years of age, enjoys good health; one died of cancer. Has four sisters, two in good health, one at present suffering from tuberculosis; one died of dysentery at thirty-six years. As a child and young man the patient was strong and vigorous. Some years ago had a slight attack of rheumatism in right shoulder. Has been a moderate user of alcoholic beverages. His diet has been plentiful, and has been only a moderate user of corn products; has used meat freely. In July, 1905, was attacked suddenly by diarrhea, which lasted for about ten days. Later on during the season there was an occasional recurrence of this trouble, which was accompanied by a great amount of pain in the abdomen, excessive amounts of gas. During the winter the patient made considerable improvement, but with the approach of warm spring weather his trouble reappeared in 1907. At the time he came under my care in July, 1907, he was considerably emaciated, but the intestinal condition was much improved, there being only two passages a day and but very little pain. During the height of his diarrheal trouble the patient passed considerable blood and much mucus. The patient's weight at this time was 117¼ pounds. Heart and lungs negative. Stomach moderately dilated; lower border at the umbilicus. Tongue was very red and raw in places. Patient complained of excessive amount of saliva, and considerable pain when masticating his food. Had been very weak for some months. Appetite poor.

Patient was under my observation from July 26th until October 1st, during which time he made very satisfactory improvement and gained several pounds in weight. Bowels were in a quite normal condition, and the patient apparently was free from trouble. He returned again in July, 1908; had been in good condition all of the preceding winter, but with the advent of spring his old symptoms had returned, such as weakness, inaptitude, looseness of the bowels, and stomatitis. Under treatment he improved very satisfactorily again, and

I did not see him again until in June, 1910. During 1909 he had a somewhat similar experience to that of the preceding year, but not so severe. During the spring of 1910 there was a very marked recurrence of the gastro-intestinal symptoms, with a cutaneous erythema over the backs of the hands. He came under my observation in June of 1910, at which time careful examinations of the stools were made, but no ameba or other protozoa found. The patient was very weak, the diarrhea was almost uncontrollable except by opium, and the appetite was very much below par. He was under my observation from the 17th of June until the 14th of August, during which time he failed to make any permanent improvement.

During my previous experience with this man I found a red cell count as low as 2,750,000 per cu. m. m., but after relieving the gastro-intestinal symptoms the blood would always very readily improve. This year the red cell count was as low as 2,000,000. In some respects the case quite closely resembled a case of primary anemia, and had it not been for the cutaneous manifestations and the chronicity of the disease and the absence of the peculiar blood findings of pernicious anemia, I should have been inclined to have diagnosed it as such.

Case No. 3. This patient, a physician thirty-eight years of age, gave a negative family history. His history was also negative as to his early life. For the past few years his nutrition had been somewhat below par, and he suffered considerable from gastrectasis. About six years ago he changed his place of residence from Michigan to Chattanooga, Tenn. After a couple of years' residence there he found that each spring, with the advent of warm weather, he would feel very greatly debilitated, and would have to give up his work for a few weeks, during which time he suffered more or less from severe dyspepsia and alternating attacks of constipation and diarrhea. By summer he would have recovered his health sufficiently to take up his practice again. Each year the symptoms returned in a more aggravated form. For the past two seasons there have been marked cutaneous symptoms, the erythema affecting principally the dorsum of the hand, giving a glovelike effect, and marked stomatitis with excessive salivation. During the last attack he showed very marked mental symptoms. As soon as he was able to travel he was brought North, and the change seemed to be very beneficial. After a few weeks' rest his appetite returned, he gained some ten or fifteen pounds in weight, and all of the peculiar symptoms of the disease disappeared.

Case No. 4. J. S. T., male, fifty-eight years of age, farmer by profession, a resident of Kentucky, who gives a negative family history, and whose condition of health during his early life and up to the age of fifty-four was all that could be desired. In the spring of 1907 he was annoyed considerably by distress after eating, the symptoms being a feeling of epigastric fulness, and distension, accompanied by eructations of sour material coming on a quarter to an hour after eating, attacks of constipation alternating with diarrhea, no nausea nor vomiting.

In 1908 gives history of edema of face, abdomen and extremities, which disappeared under the administration of purgatives and diuretics. No edema since that time. Since that time has suffered a progressive loss of weight and strength; is now between sixty and seventy pounds under usual weight. At the time of my first examination in May, 1909, I found the patient to be suffering from malnutrition, weight 142 pounds, muscles flabby and wasted, edges of the tongue and tip very red and apparently denuded of mucous membrane, skin dry, rough and inactive. The exam-

ination of the lungs showed prolonged expiratory murmur at both apises. Right lung posteriorly showed some dulness on percussion and diminished breath sounds. Heart sounds were weak and distant, no murmurs. Abdomen showed spasticity of both upper recti, more marked on right side. Liver in anterior axillary line extends from sixth rib to one inch above costal margin on a line midway between parasternal and right mammary lines, dulness extends to two fingers' breadth below margin of ribs. Palpation at Mayo-Robson's point, and externally to this point under ribs elicits marked tenderness; reflexes normal.

The urine examination showed no pathological conditions. The blood report showed moderate anemia,—hemoglobin, 75%; red cells, 3,000,000; white cells, 5,500 per cu. m. m.; systolic pressure, 120; pulse, 72.

Patient made a very rapid improvement and returned to his home on June 10th, having gained twenty-one pounds in weight and feeling better than he had for two years.

Patient returned again on the 9th of June, 1910, giving a history of having had an attack of grip in January, from which he made very unsatisfactory recovery. With the advent of warm weather the digestion became very markedly impaired, appetite poor, with a very obstinate diarrhea. At this time the urine was again negative, with the following blood analysis: hemoglobin, 83%; red cells, 3,100,000; white cells, 4,500 per cu. m. m.; systolic pressure, 100. He lost all of the weight which he had gained the former year and was very weak. Careful examination of the feces failed to reveal any blood or protozoa. The stool was of the consistency of pea soup, very copious and from three to six movements per day. At this time the patient's tongue was in so sensitive a condition that it was almost impossible for him to eat anything except liquid foods. His tongue had the appearance of raw beef. The hands still showed a moderate degree of erythema. The patient was under observation from June 9th until August 20th, during which time he made only slight improvement. At this time he returned to his home in Kentucky. I have since heard that he is gaining slowly.

I report three of these cases, Nos. 2, 3 and 4, as it seems to me that they are of interest in that they were suffering from a malady which it was impossible to diagnose as pellagra until after the disease had progressed for some two or three years, but we find in each case a tendency for the trouble to come on in the early spring and to subside after a few weeks, and the patient be fairly comfortable until the following spring, when there would be a recurrence of the symptoms in a more severe form. After two or three recurrences the symptoms were very characteristic of pellagra.

Since pellagra in this country is not limited to the South, and since the most aggravated case which I have reported, and which lived only a short time, had never lived in the South but had resided in Wisconsin,—a state from which there have been very few cases reported,—it seems to me that we should be careful not to overlook cases of this kind. Moreover, while it may not be possible to make a diagnosis of pellagra previous to the skin manifestations, it seems to me that, given a case in which the symptoms appear in the spring, such as digestive disturbance, diarrhea alternating with constipation, stomatitis, great languor and weakness, that we should at least be very suspicious that the case would develop into pellagra.

Another interesting point in the cases I have reported is that in three of the cases, cases 1, 2 and 3, but very little corn was used as food. All of the cases had been well fed, there being no history of meagerness either in the quantity or quality of

food. In these cases a very tenable hypothesis would seem to be that there was a toxin, probably developed in the intestinal tract, which was responsible for the constitutional symptoms.

As to treatment, but very little of a specific nature can be said. The treatment must be directed toward improving the general nutrition. Where the ameba is present, and from the reports it seems to be present in a large number of cases, the usual treatment for amebic dysentery must be instituted, such as the quinine sulphate injections or peroxide of hydrogen. For the general malnutrition and anemia, arsenic has been used with only moderate success. No drug has yet been discovered to have any very marked effect upon the trouble. A change of climate and nutritious diet is apparently of more value than any other line of treatment.

Some observers have reported great success by transfusion, using the blood of a pellagrin that had recovered. It would seem from this that where recovery occurs an antitoxin is elaborated which has a very specific effect. A sufficient amount of work on this line has not been reported, so definite statements cannot be made as to this form of treatment. In Italy, where the disease has existed for a great many years, so far no serum treatment or other line of specific treatment has been discovered which might be considered a cure-all.

DISCUSSION ON PAPERS OF DRS. EGGLESTON AND COLVER

Dr. Johann Flinterman, Detroit.—I would like to ask the Doctor whether any symptoms of neuritis, any pain running the course of the trunk nerves appeared, and whether it was manifested by some skin symptoms and intestinal symptoms, and whether there were other symptoms. Cases have been described where there was a manifestation of some skin affection, at the same time combined with very severe diarrhea and perspiration. I would like to know from the Doctor whether in those cases there were any symptoms of neuritis and trunk or vaso-motor disturbances.

Dr. Church, Marshall.—I would like to know whether any of these cases got well,—whether any have been cured or not.

Chairman Smithies.—It might be well to ask whether the Wassermann reaction was used in any of these cases, or a blood examination made.

Dr. Eggleston (closing).—It would take an hour or two to present the case properly. It is impossible to give you very much of an idea in the time which I have had.

With reference to pain, in one case which ran a very short course and died, the patient complained of no pain whatever, and there was no rise of temperature any time, but there was subnormal temperature during the course of the disease. The clinical manifestations are so different in different cases. Very frequently, where the nervous system seems to be particularly affected, there may be a great deal of pain. The case reported as originating in Michigan had a great deal of pain in the back of the head and neck, and complained considerably of headaches.

As to the prognosis, two of the cases died. Of the other three cases, one of them seems to be in very good condition, a case which it seems to me might recover, although there have been two recurrences of the disease. The other two cases are certainly getting worse, and will not live very long. The mortality at present is considered to be about 35%. That doesn't mean that the rest of them get well. It is a disease that runs a long course sometimes. Some observers think about one out of every five gets well.

I may say that the Wassermann reaction was not tried in any of these cases. The blood was examined frequently, a blood count made, and there was a moderate degree of anæmia in each one of the cases, not very marked.

There is one point which I wish to leave with you, and that is this, that when a case comes to you, I don't care whether it is from the South or not, if there is a complaint each spring of a feeling of great debility, loss of appetite, stomach disturbance and diarrhea, it should be watched very carefully. A great many of these cases appear in the North, many of them in Illinois. They are not limited to the South, and by keeping these points in mind you will not miss your diagnosis very often.

CHOREA MINOR*

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My object in bringing this subject before the Medical Society is to show how very prevalent chorea is. There is hardly a day without a case of chorea coming into the clinic, and they are just as common in private practice. Text-books and literature treat the subject all too meagerly.

What is chorea? This is invariably answered that it is not a disease. Chorea is a symptom. While it is true that the prominent symptom in the disease which we call chorea is the choreic motor disturbance, and that chorea known from the Greek word, a "dance," is loosely applied to many affections of the nervous system, chorea minor is an acute self-limited infectious disease in children and young people, related to rheumatism and characterized by spasmodic nervous symptoms. Such authorities as Wallenberg and Heubner would like to substitute the name infectious chorea.

The common name, St. Vitus dance, with which the laity is associating chorea, is urged by many authorities to be discarded. St. Vitus dance is an hysterical affection which bears no association to the disease which Sydenham so well described in 1686 as chorea. St. Vitus dance was originally applied to epidemics of maniacal dancing, which occurred back in 1374 at Aix la Chapelle. It was a religious belief, attacked large numbers of people, and travelled all over the country, and prevailed throughout Germany in the fifteenth century, and from that time until Sydenham gave us the description of the disease all forms of hysteria were classed with what we now call chorea.

Chorea affects children between the ages of five and fifteen years, usually, as a rule, in bright, precocious children, and the largest number occurs between seven and thirteen years. Why? Because seven to thirteen are the years during which the child goes through some of the acute infectious diseases. It is also the time when the child is usually at school and when the tax upon the mind is great. Heubner says: "Choreic movements are mimic, no case under three or four years, because it cannot occur in a child that has not learned to speak in pantomime, in whom, therefore, the corresponding nerve centres are not in function and cannot be placed in a state of infection by the toxic processes."

Chorea is attributed more to girls than to boys. Leonard G. Guthrie says, in his text-book, "Chorea affects girls three times as frequently as boys." But a larger number of boys than girls are attacked between the ages of five and ten, while more girls than boys are affected between ten and fifteen. It has been our observation that in dispensary practice especially boys are more frequently affected than girls at all ages.

With regard to the season of year, we find chorea more frequent in the spring,—March, April and May. Here, again, the two contributory factors being either overwork in school at the close of the season, or passing convalescence from some acute infectious disease.

It is said that neurotic children are more

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liable to attacks of chorea than others, and it is apt to be a disease of civilization, and for that reason it is said that negroes in the warm climates never suffer from chorea, while Jewish children, on the other hand, are very frequently subjects of it. While from our observation it is true that it is rare in the negro child, it is also true that it is no more common in the Jewish child than in any other nationality.

A history of rheumatism in the patient or in the parents was present, upon close inquiry, in almost every case. Frequent attacks of tonsillitis, endocarditis and a neuropathic history was gotten in a very large percentage of cases, so much so that a definite relation has been established between our cases of chorea, rheumatism, endocarditis and chronic infectious diseases, and in view of this it has been my great pleasure to hear such a clinician as Prof. Heubner say, "Chorea is a rheumatic equivalent, as the localization of rheumatic infection is in the nervous system."

About the relation of chorea to rheumatism and diseases of the heart, it may be said that in a large percentage of cases of chorea, cardiac inflammations become manifested which, at first, may only be a functional systolic apex murmur, but sooner or later, if the case is followed up, we have an accentuated second pulmonic, and the condition can only mean an organic endocardial disease.

Post-mortem, in a great many cases of chorea, has shown death to have resulted from an endocarditis, with such minute deposits upon the mitral valve that they have not given enough symptoms during life to call attention to the heart.

All the latest literature upon chorea mentions the fact that the percentage of cases of chorea that have had, or developed during the attack or later, attacks of rheumatism, is too large to be only a coincident, and we must take the view of Heubner, Myer and others that the rheumatic joint pains, accompanied by depression, malaise, must be rheumatic infection. The authorities warn us that in the prognosis of chorea we must take these conditions into consideration. The complication of pericarditis or endocarditis may terminate our case fatally. In a study of ninety-six cases reported by Czerno, Schwartz and Lunz (in "Jahrbuch fur Kunderheilkunde," 1905) these authorities find a very close communication between acute articular rheumatism, endocarditis and chorea. This combination of trio was seen in 62% of their cases.

The relationship between chorea and rheumatism and cardiac manifestations has been held in France for a good many years. It has been accepted by the best authorities in England and Germany, and writers in our own country are beginning to agree that they are all manifestations of the same disease.

Of course a good many clinicians claim that chorea can be traced directly to acute rheumatism in a very small percentage of cases.

Sturges mentions, I believe, only 5.8%, but this is only chorea directly due to arthritis. He admits recurrent tonsillitis, muscular tenderness, so-called growing pains, were common in his cases of chorea, and, were such symptoms taken into account, the percentage of chorea of a rheumatic origin would be largely increased. And in taking histories of our choreic patients we must not be satisfied with the negative findings of articular rheumatism, but we must make a careful examination of heart, throat, and joints, and particularly ask the patient and mother in regard to growing pains and muscular pains, and our percentage of cases of rheumatic association with chorea will be a great deal larger. No clinician expects the same clinical picture of rheumatism in a child that he sees in an adult.

It has also been shown that while signs of rheumatism may be absent before and during an attack of chorea, it may subsequently develop. Of 115 children suffering from chorea in the great Ormand Street Hospital for Sick Children, Dr. F. E. Battu found rheumatism in 32%. But, following up the cases that had not suffered from rheumatism, he found that 11.3% developed rheumatism three years later, and 9.7% developed rheumatism within six years of chorea. This shows that statistics referring to rheumatism in choreic patients would be a great deal larger if the subsequent histories of the cases could be followed.

Reflex causes of chorea have, in the past, held a high position as an etiological factor. At present, while it is true that such reflex etiological factors have not entirely lost their place, we are glad to see that they have lost their old-time importance in the opinions of most clinicians. It is undoubtedly true that a good many of these reflex causes will bring on an attack of chorea in a child so predisposed by a hereditary weak nervous system and by rheumatic infection. Reflex causes that we meet in histories of chorea are fright, grief, over-exertion both mental and physical, emotional disturbances, over-pressure at school, traumatism, errors of refraction, adenoids, worms, genital irritation, phimosis, vaginitis, etc., and a good many more could be mentioned.

In all cases we have found such a reflex cause, which was easily taken by mother and physician as the true cause of chorea, but it was not so. To illustrate only one instance: Mam. K., twelve years old, was taken sick four months ago, while I was away. Was taken to physician, with the following history: Child has been perfectly well until a day before this onset of choreic movements. She was taken by her mother to see her aunt, who died a day before. Coming home from this sight of dead body and surroundings, the child was taken sick with a violent attack of choreic movements. Physician was consulted. Both physician and mother were satisfied as to that being the cause of child's chorea. This child has passed, in the last five years under my observation, two attacks of acute articular rheumatism and several attacks of tonsillitis. She has an endocarditis, and I saw her less than a month ago with tonsillitis, and of course the persistent chorea. This, I learned, was not told the physician, and if this case has been reported by the physician it would have been reported as a case of non-rheumatic chorea due to fright.

I could cite many more cases with more trivial cause for chorea, where seeing a runaway or an accident of some kind, fire, or punishment in school, child left in dark room, administration of an anesthetic, have evidently produced chorea, but it was always upon a child either rheumatic, having an inherited rheumatic tendency, or an unstable nervous system.

For a great many years I have followed chorea cases that I have thought were due to reflex causes. A good many of them where errors of refraction were corrected by oculists at my request; a good many where tonsillectomies, operations for removal of adenoids have been performed; a great number have been circumcised; but I have yet to see the case in which the removal of the reflex cause alone cured the chorea, and this is not only my own experience, but I have asked three ophthalmologists of wide experience and two prominent laryngologists, and these gentlemen do not know of a single case in their experience where a cure was produced by removing the reflex cause mentioned. It is true that a shock of an anesthetic, or otherwise, has often had the effect of controlling the chorea for a limited time, but it almost always recurred later.

A very well-marked chorea is recognized

easily. It is very seldom, indeed, that we meet in a section students who do not make such a diagnosis. Motor disturbances begin gradually, the child is unable to sit still, makes faces, wriggles, continuous use of fingers, drumming on the table, or doing something all the time. We very early have change in speech, due to the fact that the tongue, and muscles that take part in speech, are affected. A child may say a few words, then suddenly stop, unable to pronounce any more—may whisper, or, after interruption, go on and continue the sentence.

The choreic motor disturbances affect, as a rule, the voluntary muscles, and are frequently more prominent on one side of body than on the other. The breathing may be affected the same way as the interruption of the speech, and sometimes the child cannot perform the smallest movements with muscles. If you tell her to point out the index finger, say, she may flex or extend the whole hand, or do any kind of motion but the one asked for, and in a short while go on and perform the act or movement asked.

In this disease the whole motor tract from the cortex down to the motor nerve endings in the muscles may suffer, but various portions of the tract may not be affected alike,—one may be stimulated, another depressed or inhibited. If the upper motor neurons are severely affected, its restraining influence on the lower neurons is removed, the reflexes excite them, and it is noticeable in the speech affected, and the knee jerks exaggerated. The pupils may not react evenly to light, one beginning to dilate before the other, and they may show inequality. Langmead says that he has not found this altered accommodation in any general condition except articular or cardiac rheumatism or chorea.

This is explained by the motor impulse getting off the original track and reaching muscles never intended to be set in motion. Usually during sleep the choreic movements cease. In severe cases the gait may be uncertain; the child cannot sit, stand or walk, cannot be still, and often falls out of bed. The disposition of the patient is usually changed. They cannot concentrate their attention when performing any mental work. They are very moody, can be easily excited to laughter or tears, and exhibit great psychic depression.

As a rule, they are anæmic, and we know that most of the acute infectious diseases produce an amount of secondary anæmia, which is particularly true of rheumatism and its associate disease, endocarditis; great diminution of muscular tone, anorexia, and if the child cannot sleep the condition may be very alarming. On the other hand, if they get sufficient nourishment and sleep, their appearance is fair. Urinary findings are, as a rule, negative. There may be an excess of uric acids due to great muscular activity. Albumin, if present, is as a rule due to complication.

As I said before, there are cases that are easily diagnosed, not only by the physician but very often by many others, as the school teacher, mother or friend.

I would like to say a word about the very many early cases that could have been diagnosed before more serious symptoms have developed.

If one watches the number of children that play,—school-room, at the table or any place where a number of children congregate,—one will find a very large percentage of them exhibiting restlessness, some slight twitching and, on closer examination of these cases, that they cannot perform fine movements without fibrillary tremor, and are true cases of mild chorea. Such cases are often brought in the clinic for treatment of other ailments, and very often run an afebrile course, sleep and eat well, and do not appear to be much disturbed

from the disease. However, in such cases relapses are very frequent, and, as a rule, they are milder than the original attack, but they may be very severe, owing to the danger of being followed by an endocarditis.

The duration of an ordinary case of chorea is usually from one and one-half to two months in the mild form, and in the severe form from six to eight months.

Pathology: Very little is said in textbooks about the pathology of chorea, and physicians as a rule say "there is no pathology of chorea." As a rule, post-mortems find a toxic infectious lesion in the cerebellum, not sufficient to produce anatomical findings. All changes are diffuse and involve the entire central nervous system.

The cortex cerebri is chiefly affected, and in some cases there is an involvement of different areas of the spinal cord. Various inflammatory and vascular changes have been described, various alterations in the cortex of the cells, but these changes are not constant, and are attributed by some authorities to complications.

Drs. Poynton and Paine have found in the joints of acute rheumatism a diplococcus which, when injected into animals, produced polyarthritis, endocarditis and symptoms resembling human chorea. Diplococci rheumatici were not only found in heart lesions in cases of chorea, but were also found in the small vessels of the cerebral cortex. In chorea, Pianese has established a bacillus and a coccus from the central nervous system, the former of which produced convulsions when inoculated into animals.

Guthrie says: "It seems, on the whole, most probable that chorea is the result of an infective process, though it cannot be decided whether the symptoms are due to direct irritation of nerve elements by organisms, or to a general toxemia, induced by their action.

The presence of micro-organisms in the immediate neighborhood of the cerebral cortical cells suggests local action, but a toxic condition of the blood may also play a part.

It is true that some cases of temporary chorea may perhaps be due to other micro-organisms or to toxins, like in the puerperal woman; and clinicians have observed that girls suffering from chorea in early life are apt to have puerperal insanity later in life. The disease being easily inoculated in lower animals, it will not be long before the pathology will be established on a more constant and firm foundation.

It is very seldom chorea is taken for any other disease. The only difficulty I have ever met was in the mild forms of tic. It may be very hard in the beginning. Choreic movements are general; tic is confined to special parts. I have often observed tic of the head. The facial expression in tic is quick and vivacious, in chorea usually stupid, and later the general nutrition suffers in chorea but does not in tic. Between true chorea and hysterical chorea we ought not to meet with any difficulty. Hysterical chorea is usually after puberty; true chorea is a disease of early childhood as a rule. We may meet with some cases in schools where often children, seeing others, try to imitate, but these are not true hysterical choreas. In hysterical chorea there is usually a tremor of the limbs, characterized by rhythmical spasms of the individual muscles, and other hysterical stigmata will clear up the diagnosis.

When we see a case of chorea under treatment we may be sure that the child is taking arsenic in some form, and it is so common that I have been in the habit of asking the mother, "How many drops are you giving your child now?"—because it is Fowler's solution that is prescribed, beginning with small doses gradually pushed to the physiological effect, then dropped and begun over again. If we ask a student,

"What medicinal treatment would you give a child with chorea?"—answer, "Arsenic."

While writing this, I have demonstrated to the class two cases that have been under large doses of arsenic and were not improving; reducing the arsenic, the patients begun to improve and did just as well and were getting well after the arsenic was withdrawn altogether.

Dr. W. Murray ("Rough Notes on Remedies," 1899, p. 17, Third Edition) says: "It is to be regretted, I think, that the Newcastle quack who confessed on his death-bed that his chorea cure contained large quantities of arsenic, did not die impenitent." Had he merely confessed to spells and incantations, he would not have done much harm, but, as Voltaire says, "Spells and incantations, when combined with a sufficiency of arsenic, may destroy whole flocks of sheep." We know that arsenic in large doses is not a specific for chorea. Arsenic in small doses may benefit some cases. Arsenic pushed, large doses, and when the accumulated amount has reached its height, the choreic movements may cease. Dr. Roleston asked this question, "Does arsenic cure chorea because it makes the patient ill in another way, and unable to manifest the original disease?" Dr. Guthrie says, that an arsenical peripheral neuritis may be superheaded to the original complaint. J. Burnett objects strongly to arsenic: Firstly, because large doses must be given, and they produce neuritis; secondly, the results, if any, are not permanent; thirdly, drugs have no influence over complications or sequelæ of chorea; fourthly, it does not benefit the rheumatic constitution of the patient.

The facts that the emotional neurotic temperament plays a principal part in the production of chorea, is sufficient reason for condemning the practice of poisoning children with arsenic or any other drug.

Arsenic is losing ground in general for the treatment of chorea, and is seldom prescribed in large clinics. Men of extensive experience all over claim for it no more than for any other drug, and say that it is very injurious in large doses. The drugs that are useful are salicylates and its groups, or aspirin.

Dr. D. B. Lees (Harveian Lectures, 1903) gives salicylate of soda, 100 to 300 gr. a day, to children from six to ten years of age.

Zaussailoff ("Wratchebniga Gazeta," 1904) treated a large number of choreic children with salicylates, patients from three to twelve years of age, that had no apparent rheumatic symptoms, and no history obtainable of a rheumatic diathesis. The effects were striking in all cases; all improved when the arsenic failed.

J. Burnett strongly believes chorea a rheumatic manifestation; the movements being only an exaggeration of the natural restlessness of rheumatic children. He uses salicylates altogether. He believes the aceto-salicylate best, to be given in milk, and the tablet form of salicylates not good; strongly objects to arsenic.

To say that the salicylate group should be prescribed in every case of chorea will not be correct. Mild cases of chorea, where there are not indications of grave complications, tonic treatment and rest is the proper course. Here, again, I would not confine every case to bed; while it may be very good in some cases, in children that are not very active and usually resigned to stay in bed or confined to their room, it will make an active, playful child worse. Yet such men as Byron Bramwell, in his lectures at the Royal College, at Edinborough, says, "I am strongly of the opinion that rest in bed is the proper treatment in the earlier stages of all cases of chorea, for it is in the early stages of the disease that endocarditis is most apt to be developed."

Rest in bed should be insisted upon in all severe cases—absolute rest. A modified

Weir-Mitchell rest treatment, described by John Ruhrah ("Archives Pediatrics," Vol. 25, p. 101), is the best in chorea.

Rest for both mind and body, and increased weight of child, is aimed at. He puts the child to bed after a bath, until movements have ceased entirely and patient gained in weight. Daily warm baths and massage, a diet of milk, first from three to eight ounces every two or three hours, and increased gradually. Bowels open and the salicylates. If child is quiet and gaining after ten days, he allows it to get up for a trial. It usually gains from three to six pounds. In forty cases treated in this way he only reports one failure.

Baccelli, in Rome, one of the best clinicians in the world to-day, praises camphor monobromate, from 15 to 30 grains a day; rest in bed; hot packs, temperature of 90° Fahr.

Bernardo relates a case of chorea in a child nine years of age, where arsenic treatment failed; 15 grs. daily of monobromate of camphor pushed to 30 grs.; after four or five days the movement stopped. He stopped the camphor and resumed the arsenic again, and the patient got worse. Camphor resumed after a few days and the child improved, and in eight weeks got well and no relapse in years.

Parathyroid gland is given a great deal in Italy. Sea-water injections, quinine, antipyrine, hyoscine, physostigmin and even inhalation of chloroform has been recommended.

To sum up the treatment of chorea, I would say that there is no specific drug in this disease. The treatment of severe and mild cases differ, and, as we all know, the treatment of dispensary and private cases differ; but in general put the patient to bed when it is possible, and this must be insisted upon in all severe cases.

Prof. Dejerine isolates his patients in bed surrounded by screens; gives them a milk diet, from one to five quarts of milk daily. We have never been able to give that much, but we insist on a milk diet also.

Drugs: Salicylate of soda should be given in all cases. In severe cases a sedative is indicated. Bromide, chloral, chloretone, trional, vironal, sulphonal, and others should be given, if indicated, especially to assure rest. Warm baths or packs, tepid sponging, sometimes a cold douche and massage. If the child is very restless, strap in bed if necessary.

Tonics: Bitter tonics, iron, nux-vomica are indicated. The complications require their own treatment.

Avoid scolding, teasing or schooling, but at the same time be firm with the child, and it is very often necessary to remove the child from family and friends. All reflex irritations should be removed; especially is this true of diseased tonsils, as we know it is a portal of infection for rheumatism, but I mention again, diseased tonsils—and it requires an expert to recognize a diseased tonsil. All large and inflamed tonsils are not diseased tonsils. Here I would like to say a word about the wholesale removal of tonsils in children when it is not indicated. Our profession gets spasmodic spells about removing something or other from our patients. Once it was circumcision, and every child was circumcised, regardless of necessity (I mean to the patient). While there are still some that do it, it is not as prevalent as it has been, because it is the tonsil that comes in for it now.

If a tonsil is not diseased and does not interfere with the breathing, I do not see any necessity for a tonsillotomy or a tonsillectomy. Leave it alone, it has its use. The best laryngologists say the normal tonsil should not be disturbed, particularly in infancy and childhood. It has a function and should be left alone. Almost everything has been blamed to the poor, harmless tonsil, and too much promise is

held out to mothers for their children if the tonsils are removed. The parents are often disappointed. I hope we will find something else, soon, to remove, and leave the normal tonsil alone.

Correct any nose and throat trouble; remove the child from would-be kind friends or nurses that are in the habit of telling the child ghost stories. Any operation indicated should not be performed while the child has an active attack of chorea. Wait until the child is better.

Conclusions

First, urge an earlier diagnosis of chorea minor. As mentioned before, many cases come in to see us about other ailments; we can often note slight fibrillary twitching, and on a careful examination make a diagnosis of chorea. So much can be done for the child's future by early treatment.

Second, add to this our own clinical observations of its association with rheumatism, tonsillitis and endocarditis.

Third, the beneficial results from the salicylates and rest in bed, and milk diet.

Fourth, teach the parents and teachers in school to recognize this disease early, as it is during this time that we can remove the child from other children.

Fifth, stop the wholesale abuse of arsenic in this disease.

Sixth, examination of school children by school physicians should include an exclusion of the choreic child from school.

Seventh, isolate all severe cases.

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SURGICAL SUGGESTIONS

In an injury to the wrist tenderness just distal to the radius and in the "anatomical snuff box" is significant of fracture of the scaphoid.—*American Journal of Surgery.*

Lavage of the stomach preparatory to an operation for intestinal obstruction had best be done before anesthetizing. Performed during narcosis the procedure *may* cause alarming embarrassment of respiration, and if the throat *should* become flooded with mucus or stomach content, as occasionally happens, an aspiration pneumonia is very apt to follow.—*American Journal of Surgery.*

Many, if not most, of the cases of shoulder pain variously diagnosed as circumflex neuritis, rheumatism, etc., are instances of subacromial or subcoracoid bursitis. With involvement of the former bursa there is usually tenderness just beyond the acromion, usually somewhat anteriorly; in the latter there is marked tenderness just external to the coracoid tip. Pain on rotation of the arm may be present in either; it is most constant in subcoracoid bursitis.—*American Journal of Surgery.*

When dealing with a chronic bone abscess (and often, too, in acuter cases) it saves weeks of after treatment to work with an osteo-periosteal ("coffin lid") flap, and close the wound completely.—*American Journal of Surgery.*

If a patient with the signs and symptoms of chronic appendicitis is unduly anemic and has lost weight, be prepared for the possibility of a more serious lesion, e. g., neoplasm, ileocecal tuberculosis.—*American Journal of Surgery.*

When resecting the cecum be careful not to tie the mesentery of the ascending colon too close to the bowel—the anastomosing loop of the ileo-colic and colica media lies very near the gut.—*American Journal of Surgery.*

After resection of the small bowel lateral anastomosis possesses several advantages, as to safety, simplicity and patency, over end-to-end union. The gut ultimately becomes a straight tube if the stoma is made near the closed ends.—*American Journal of Surgery.*

The Journal of the Michigan State Medical Society

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Wilfrid Haughey, A. M., M. D., Editor, 24 West Main Street, Battle Creek, Michigan. The Society does not hold itself responsible for opinions expressed in original papers, discussions or communications.

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APRIL

EDITORIAL

Your Committee recommends, that on May first of each year the Journal of the State Society be discontinued to all subscribers and members in arrears and that such members be reported to the Secretary of the American Medical Association as "dropped for non-payment of dues."—*Report of Business Committee unanimously adopted by House of Delegates.*

PAYMENT OF DUES

REFERRING to the paragraph above, those of our members in arrears will see that they now have only one month in which to pay dues and continue in good standing. The names of all those in arrears on May 1st will be taken off the list before the mailing of the June JOURNAL.

MEMBERSHIP IN THE A. M. A.

ON page 195 we are printing a letter received from the Secretary of the Board of Trustees of the American Medical Association relative to making membership in the County and State Society carry with it membership in the American Medical Association. Since the Michigan State Medical Society does not meet until September, it will be impossible for Michigan to take action before then.

The columns of the JOURNAL will be open to the extent of available space for discussion upon this matter. We hope to present both sides, so that intelligent action may be taken at our Annual Meeting in Detroit in September, when the matter will come up before the House of Delegates.

LEGISLATION OF INTEREST TO PHYSICIANS

THE number of people in this State outside of the medical profession taking an active interest in matters relating more or less directly to medical practice is surprisingly large. This is particularly evidenced by the bills which find their way to the Legislative halls at Lansing. The Michigan State Medical Society through its Legislative Committee and its Council is responsible for but one of these bills, The Reynolds Bill,—H. R., No. 235. The Committee appointed at Kalamazoo to secure legislation to protect the term "certified milk" has introduced a bill by Senator Watkins, S. B. No. 272.

Others than these two bills are being urged by non-medical people. In order to protect its rights and prerogatives and prevent too severe penalties being imposed, it behooves the medical profession to at least know what the legislature is doing. It would be to our advantage to direct its action along some lines.

Following are some of the bills relating more or less directly to Medical Practice and Medical Rights:

HOUSE BILL NO. 235, FILE NO. 100

Introduced by Mr. Reynolds, February 2, 1911. Referred to the Committee on Public Health.

A BILL to amend Sections 3, 5, 7, 8 and 9 of Act. No. 237 of the Public Acts of 1899, entitled, "An act to provide for the examination, regulation, licensing and registration of physicians and surgeons, and for the punishment of offenders against this act, and to repeal acts and parts of acts in conflict therewith," as amended by Act No. 191 of the Public Acts of 1907.

This is the bill prepared by the Legislative Committee of the Michigan State Medical Society to give State support to the Michigan State Board of Registration in Med-

icine. It carries a better definition of "Practice of Medicine:" "*In this act, unless otherwise provided, the term* 'practice of medicine' *shall mean the actual diagnosing, curing or relieving in any degree, or professing or attempting to diagnose, treat, cure or relieve any human disease, ailment, defect or complaint, whether of physical or mental origin, by attendance or by advice, or by prescribing or furnishing any drugs, medicine, appliance, manipulation or method, or by any therapeutic agent whatsoever: Provided, That this interpretation of the 'practice of medicine' shall not apply to persons who confine their ministration to the sick and afflicted or disabled to prayer and without the addition of material remedies or professional fees.*"

SENATE BILL 154, FILE NO. 142

Introduced by Senator Snell February 8, 1911. Referred to the Committee on Public Health.

A BILL to regulate the production and sale of certified milk, to provide for the enforcement thereof, and punishment for the violation of the same.

An incomplete and inadequate bill introduced by a dairyman. No standards of "certified milk" are set. The milk commission is hemmed in by restrictions, but has no powers.

SENATE BILL 272, FILE NO. 254

Introduced by Senator Watkins March 8, 1911. Referred to the Committee on Public Health.

A BILL providing for the incorporation of medical milk commissions, and the certification of milk produced under their supervision.

This is the bill prepared by the Committee of the Michigan State Medical Society to protect the term "certified milk." The committee on Public Health of the Senate consists of Messrs. F. D. Scott, A. C. Kingman and H. T. Barnaby.

SENATE BILL 139, FILE NO. 129

Introduced by Senator Kline, February 2, 1911. Referred to the Committee on Judiciary.

A BILL to prohibit certain classes of immoral advertising, and to provide punishment for violators hereof.

The People of the State of Michigan enact:

SECTION 1. Any person who shall advertise in his own name or in the name of any other person, firm, or pretended firm, association, corporation, or pretended corporation, in any newspaper, pamphlet, circular, periodical or other written or printed paper, or the owner, publisher or manager of any newspaper or periodical who shall permit to be published or inserted in any newspaper or periodical owned or controlled by him, an advertisement of the treating or curing of venereal diseases, the restoration of "lost manhood" or "lost vitality or vigor," or shall advertise in any manner that he is a specialist in diseases of the sexual organs, or diseases caused by sexual weakness, self-abuse, or in any diseases of like cause, or shall advertise in any manner any medicine, drug, compound, appliance or any means whatever whereby sexual diseases of men or women may be cured or relieved, or miscarriage or abortion produced, or shall advertise any medicine or means whatever whereby the monthly periods of women can be regulated, or the menses re-established, if suppressed, shall be guilty of a gross misdemeanor, and upon conviction thereof shall be punished by a fine of not less than fifty dollars nor more than five hundred dollars, or by imprisonment in the county jail for not more than six months, or both, in the discretion of the court. But this act shall not be construed as creating an additional penalty for the acts made unlawful by Act No. 237 of the Public Acts of 1899, as amended by Act No. 164 of the Public Acts of 1907.

SECTION 2. Any person publishing, distributing or causing to be distributed or circulated any of the advertising matter, hereinbefore described, either in newspapers or other printed or written forms, shall be guilty of a misdemeanor as noted in Section 1 and punished as therein prescribed.

SECTION 3. Any advertisement found in any newspaper, pamphlet or circular, containing the words "lost manhood," "lost vitality or vigor," or other expression synonymous therewith, shall be prima facie evidence of the guilt of the party or parties subscribing to the said advertisements, their agents or representatives, and the same penalties shall apply to the publishers of the papers containing the same as are prescribed in Section 1.

This is a much-needed measure which

will clean up our public prints and should pass.

Committee on Judiciary: Senators C. E. White, C. E. Mapes, G. A. Miller, J. Vanderwerp, F. D. Scott.

HOUSE BILL NO. 61, FILE NO. 20

Introduced by Mr. Glasner, January 12, 1911. Referred to the Committee on Judiciary.

A BILL to amend Section 6 of Chapter 83 of the Revised Statutes of 1846, entitled "Of marriage and the solemnization thereof," said Section being compiler's Section 8593 of the Compiled Laws of 1897, as amended by Act No. 247 of the Public Acts of 1899, as amended by Act. No 136 of the Public Acts of 1905.

This bill provides that "*no insane person, idiot, epileptic, feeble-minded, imbecile or person who has been afflicted with open tuberculosis, syphilis, or gonorrhea, and has not been cured of the same, shall be capable of contracting marriage;*" also that "*no license shall be issued by the county clerk of any county in this State to any persons not procuring and filing with him at the time of the making of the affidavit for a license to marry as provided by the laws of the State of Michigan a certificate of a legally practising physician, which certificate shall be in writing certifying that said persons so applying for such license to marry are not at the time of so applying afflicted with any of the diseases mentioned in this act, and such certificate shall further state that there is no probability that such persons will transmit any of such defects or disabilities to the issue of such marriage.*"

The bill was amended by inserting. "*Provided, That the probate court of each county shall appoint a regularly licensed, practising physician residing at the county seat who shall make the examination and certificate for applicants not residents of this State for marriage licenses, and provided further, that no physician shall be entitled to charge a fee in excess of one dollar for any such examination.*"

This bill is of especial importance to physicians in that it requires them to make positive statements concerning matters about which they cannot be positive. It also limits the fee which the physician shall receive to a sum entirely inadequate for the work necessary to making these examinations anything more than a farce.

This bill as amended passed the House March 14, and is now in the Senate Committee on Judiciary.

SENATE BILL 109, FILE NO. 99

Introduced by Senator Taylor January 26, 1911. Referred to the Committee on Public Health.

A BILL to provide for the reporting of occupational diseases by physicians.

The People of the State of Michigan enact:

SECTION 1. Every physician attending or called upon to treat a patient whom he believes to be suffering from poisoning from lead, phosphorus, arsenic or mercury, or their compounds, or from anthrax, or from compressed air illness, contracted as a result of the nature of the patient's employment, shall send to the Commissioner of Labor a notice stating the name, post-office address and place of employment of the patient the length of time of such employment, and the disease from which in the opinion of the physician the patient is suffering.

SECTION 2. Any physician who shall fail to make any report required by the preceding Section, or who shall wilfully make any false statement in such report, shall be deemed guilty of a misdemeanor and on conviction thereof shall be punished by a fine of not more than fifty dollars

SECTION 3. It shall be the duty of the Commissioner of Labor and of the prosecuting attorney of the county where any one violating the provisions of this act may reside to prosecute all violations of the provisions of this act which shall come to the knowledge of them or either of them.

HOUSE BILL NO. 269, FILE NO. 131

Introduced by Mr. Wood, February 9, 1911. Referred to the Committee on Public Health.

A BILL to amend Sections 1 and 5 of Act No. 30 of the Public Acts of 1909, entitled "An act to regulate the sale of cocaine, its salts; alpha or beta eucaine, their salts; or any preparation of cocaine or its salts; or any preparation of alpha

or beta eucaine or their salts; or any compound, mixture, solution or other product of which cocaine or any of its salts or alpha or beta eucaine or any of their salts may be an ingredient."

The amendments in this bill limit the application of the law to manufacturers, jobbers, wholesale druggists, registered pharmacists, registered druggists, registered or licensed physicians, veterinarians or dentists. This bill passed the house March 6.

HOUSE BILL NO. 119, FILE NO. 91

Introduced by Mr. Copley, January 19, 1911. Referred to the Committee on Public Health.

A BILL to amend Sections 2 and 3 of Act No. 105 of the Public Acts of 1901, entitled "An act to prohibit the conducting, establishing or maintaining, or carrying on without a license of any maternity hospital, lying-in asylum or other place for the receiving, caring for or treating of females during pregnancy, or during or after delivery, and to provide for the licensing and regulation of the same," and to repeal Section 5 of the same act.

This bill provides for reports regarding maternity hospitals by Boards of Health,—and that children shall not be indentured or adopted out of such hospitals until the home to which they go is approved by the County Agent. It also provides for visits to such hospitals by any member of the State Board of Corrections and Charities. The bill passed the House March 14, but was reconsidered as it would very seriously interfere with such worthy institutions as the House of Providence, Home of the Good Shepherd, etc. It requires reports of the names of all inmates.

HOUSE BILL NO. 167, FILE NO. 130

Introduced by Mr. Myers, January 25, 1911. Referred to the Committee on Public Health.

A BILL to amend Section 15 of Chapter 35 of the Revised Statutes of 1846, relative to the preservation of the public health, quarantine, nuisances and offensive trades, being Section 1647 of Howell's Annotated Statutes, as amended, and being Section 4424 of the Compiled Laws of 1897, and as amended by Act No. 7 of the Public Acts of 1903, and Act No. 98 of the Public Acts of 1909.

This amends the law by adding the following to Section 15: "*Provided further, That the board of supervisors of any county in this State may by resolution passed at any session, regular or special, of said board, provide that the expenses in this section provided for, shall be audited by the township board, the city council or commission or village council or commission, as the case may be, of the township, city, or village of which such person shall be a resident, in the manner hereinbefore provided for audit by the board of supervisors, and that such expenses shall be a charge against such township, city or village; such resolution to take effect and be in force from and after the first day of January following its adoption, and shall remain in full force and effect until rescinded by said board: Provided further, that such resolution shall not apply to expenses incurred by any village, township, or city for a non-resident of the county.*"

The object of this bill is to throw the expense of caring for contagious diseases upon the town or city,—thus relieving the general county tax, and increasing the local tax. It is of importance to physicians in that we may have to present our bills to the local health boards, rather than the Board of Supervisors. The bill passed the House March 6.

HOUSE BILL NO. 123, FILE NO. 94

Introduced by Mr. Parks, January 19, 1911. Referred to the Committee on Public Health.

A BILL to provide for the regulation, licensing and registration of chiropractors practising chiropractic, and for the punishment of offenders against this act.

This bill delegates the appointing power to the Michigan State Association of Chiropractors. It fixes no standard of education specifically, but provides that after June 1, 1912, the applicant "*shall be possessed of an education equal to a three*

years' high school course, Michigan standard. He must also be a graduate of a school or college teaching the science of chiropractic, which school or college has an entrance examination requiring three years of high school work or its equivalent and shall require a course of personal instruction equal to the standard of the Michigan College of Chiropractic, but such instruction shall not be given by corre spondence."

No course of studies is prescribed, and at the hearing before the Committee on Public Health the chiropractors stated they studied anatomy only,—all other studies being unnecessary. They do not do dissection, but study anatomy and are limited to the anatomy of the spine, by "inspection, feel, and Gray's text-book."

Section 4 provides: "*The science of chiropractic is hereby defined to be the art of locating those irregularities and subluxa tions of the spinal column which cause dis ease, and the adjustment of the vertebræ by hand without the use of any other adjuncts, with the intent thereby to remove the cause of disease.*"

The bill as amended provides a two years' course of study, and prohibits the treatment of any communicable or contagious disease or surgical case. It also forces those now in practice to come within the provisions of the bill. As amended it has passed the house. It opens up another short cut to the practice of medicine, and should be defeated.

HOUSE BILL NO. 121, FILE NO. 73

Introduced by Arthur O'Dell, January 19, 1911. Referred to the Committee on State Affairs.

A BILL to provide for the prevention of procreation of confirmed criminals, idiots, imbeciles, feeble-minded and insane persons.

Has our knowledge of insanity and its hereditary effects progressed to the stage that we wish to prevent procreation in more than the criminal insane? Would it not be better at present to except the non-criminal insane?

Should the exact operation to be performed (vasectomy or oophorectomy), be indicated, or should that be left to the surgeon?

Section 2 reads: "*Except as authorized by this act, every person who shall perform, encourage, assist in, or otherwise promote the performance of either of the operations described in Section 1 of this act, for the purpose of destroying the power to procreate the human species, or any person who shall knowingly permit either of such operations to be performed upon such person, unless the same shall be a medical necessity, shall be fined not more than one thousand dollars, or imprisoned in the state prison not more than five years, or both in the discretion of the court before whom the said persons were so convicted.*"

Are medical men ready to have restrictions placed upon them in such a manner that they can with extreme difficulty defend themselves if attacked? Suppose a surgeon does an ovariotomy, and does not save the specimens, how many would be able to prove the "medical necessity" in court a few years later?

This bill passed the house March 7, and is now in the Senate, being referred to the Committee on State affairs, Senators Kline, Barnaby, Kingman, Bradley and Geo. G. Scott. The title is amended to read:

"*A bill to authorize the operation of vasectomy or oophorectomy in certain cases and to provide a penalty for the unauthorized use of said operations.*"

HOUSE BILL NO. 208, FILE NO. 103

Introduced by Mr. Henry, January 31, 1911. Referred to the Committee on Towns and Counties.

A BILL to amend Section 2 of Act No. 58 of the Public Acts of 1909, entitled "An act relative to the adjustment and payment of claims against counties, and to provide appeals from the disallowance thereof."

This bill amends the law of 1909 by inserting, "*Provided, That no appeal shall be allowed unless such claimant shall have appeared before the said board and presented evidence in support of such claims or attached an affidavit thereto.*"

The bill has passed the house, and is now before the Committee on Counties and Townships of the Senate, Senators Murtha, White and Walter. The ten-day limit for appeal will probably be extended to 30 days.

(See page 199.)

IN MEMORIAM

Thomas Graham, M. D., Grand Rapids Medical College, 1907, died at his home in St. James, Beaver Island, Michigan, January 16, from diabetes, aged thirty-four

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John Kapp, M. D., University of Michigan, Ann Arbor, 1868; formerly a member of the Michigan State Medical Society, and Washtenaw County Medical Society; for three terms mayor of Ann Arbor; died at his home in Los Angeles, January 17, from general breakdown, aged sixty-nine.

James Kelley Farnum, M. D., University of Michigan, Ann Arbor, 1870; surgeon for the Pere Marquette and Grand Trunk systems for several years; died in the City Hospital, Port Huron, Mich., February 11, from shock following the amputation of a foot as the result of a street-car accident four days before, aged sixty-four.

John C. Nottingham, M. D., Bennett Medical College, Chicago, 1873; a veteran of the Civil War; at one time treasurer of Delaware County, Ind.; a charter member and one of the organizers of the Saginaw Valley Medical Society; died at his office in Bay City, Michigan, February 25, from heart disease, aged sixty-nine.

Amy Garrison Brown Kimball, M. D., Cleveland College of Physicians and Surgeons, 1878; for three years interne in the Northeastern Hospital for Women, Boston; died at her home in Jackson, Michigan, January 29, from pneumonia, aged sixty-three.

Thomas E. Briggs, M. D., Saginaw Valley Medical College, Saginaw, Michigan, 1903; of Saginaw; formerly a member of the Michigan State Medical Society, and Saginaw County Medical Society; died at the Saginaw General Hospital, February 23, from pneumonia, aged thirty-two.

Colin B. McKenzie, M. D., University of Michigan, 1891, formerly a member of the Michigan State Medical Society, and Huron County Medical Society, of Harbor Beach, died March 6, of heart complications, aged fifty-one.

Mrs. Jennie J. Willson, wife of Dr. Mortimer Willson, died at her home in Port Huron February 26. She had been in poor health for several months, and to devote more time to her, Dr. Willson resigned from the Council of the Michigan State Medical Society about a year and a half ago.

Bartlett Norton Torrey, M. D., Washington University, St. Louis, 1874; a member of the American Medical Association; a member of the Michigan State Medical Society; formerly local surgeon of the Burlington System, and vice-president of the Cottage Hospital, Creston, Ia.; superintendent of the Omaha General Hospital in 1905 and 1906; for the last two years a resident of Detroit; died in Harper Hospital, March 2, from nephritis following prostatectomy, aged 66.

COUNTY SOCIETY NEWS

CALHOUN

The first quarterly meeting of the Calhoun County Medical Society for 1911 was held at Albion, March 7th, with eighteen members present and President Marsh in the chair.

The plan of interchangeable meetings with the Kalamazoo Academy was adopted. By this method a better spirit of friendliness and acquaintanceship will be established.

The Scientific program had four numbers. Dr. W. H. Haughey, of Battle Creek, added a few items of interest to his paper on "Contract Practice," read at the December meeting, the discussion of which was adjourned to the March meeting. Quite active discussion was provoked, and nearly all present participated. Dr. L. S. Hodges, of Tekonsha, gave a practical talk on "Uticaria," in which he related some interesting experiences in the treatment of uticaria. Dr. Hodges' experiments were with creosotiodid, and the results were certainly very pleasing. Dr. J. C. Brown, of Battle Creek, gave an interesting talk on "Varicose Ulcers and their Treatment." The discussion was active and practical. "Variola" was the subject of Dr. A. S. Kimball's paper, illustrated with a few photographs of recent cases.

Adjournment was taken to Ceresco for the June meeting, where the Society becomes the guest of Dr. R. M. Gubbins.

COMMITTEES FOR 1911

Program, A. S. Kimball, H. A. Powers and A. J. Abbott. Necrology, R. C. Stone, R. M. Gubbins and G. B. Gesner. Entertainment, G. C. Hafford, H. A. Herzer and Wilfrid Haughey.

A. S. KIMBALL, *Secretary.*

GENESEE

At the regular quarterly meeting of Genesee County Medical Society, January 31, the physicians and dentists of the County listened to an interesting paper by Dr. R. W. Bunting, of Ann Arbor, upon "The Relation of the Dentist to the Physician." The Doctor traced historically the close relationship of dentistry and medicine, and the necessity of co-operation between the dentist and the physician for the welfare of the patient. How necessary it is for the physician, in the examination of the mouth and tongue, also not to miss the general condition of the teeth and gums, as pyorrhea and decayed teeth are great factors in the causation of indigestion. The too early removal of the first teeth by the general practitioner, who is ignorant of the subsequent evil results, such as a deformed palatal arch and unspacement and crowding of the second teeth, is to be condemned.

Likewise the dentist should remember that the causes of pyorrhea and associated diseased conditions of the gums are always deeper seated than a local condition, and may be due to debilitated conditions of the body, and these cases should receive medical attention.

An interesting discussion followed. A committee of three was appointed to revise the Constitution and the Fee Bill.

Dr. Don D. Knapp, a member of the local Society, has been appointed Health Officer of Flint.

C. P. CLARK, *Secretary.*

GRAND TRAVERSE

The regular monthly meeting of the Grand Traverse-Lenawee County Medical Society was held on the evening of March 7 in Dr. Holdsworth's office. Eight members were present. Minutes of last meeting were read and approved. Several letters were read and the Chiropractic Bill was discussed.

Dr. E. A. Miller, of Suttons Bay, was admitted to membership in the Society

Dr. Holdsworth read an interesting paper entitled "Tonsillectomy, its Indications and Contraindications." A general discussion followed. A discussion was also held on Salvarsan.

Dr. Fralick, of Maple City, invited the Society to hold its annual picnic at his cottage at Glen Lake. The invitation was accepted. After deciding to hold the next meeting at the Northern Michigan Asylum, the Society adjourned.

R. E. WELLS, *Secretary.*

JACKSON

Jackson County Medical Society held its first quarterly meeting in the Library Auditorium Thursday, March 2, at 2.30 P. M. After a short

business session, Dr. Guy L. Kiefer, Health Officer of Detroit, took up the subject, "Medical Inspection of School Children." Many of the teachers and interested parents attended the very interesting and instructive lecture.

At the evening session, held at 7.30 P. M., Dr. Kiefer spoke on the subject, "Prevention of Tuberculosis." Dr. Eugene B. Pierce, Superintendent of the State Sanatorium at Howell, read a paper on "Sanatorium Treatment of Tuberculosis."

The Society adopted resolutions, and forwarded them to our Senator and Representatives, relative to the House Bill No. 123, for the regulation of the practice of the so-called chiropractors. Jackson is trying to rid itself of its reputation of being the home of charlatans and quacks.

G. A. Seybold, *Secretary.*

MECOSTA

The Mecosta County Medical Society met, March 1, as the guests of Dr. L. S. Griswold. A delightful chicken dinner was served at Doucett's Rest at 7 P. M., after which we adjourned to Dr. Griswold's residence for the scientific meeting.

Dr. Burton R. Corbus, of Grand Rapids, read a paper on "Pernicious Anemia," dwelling at length upon the theories of cause,—intestinal toxemias, atrophic stomach with loss of hydrochloric acid secretion, loss of liver function of converting the food element in the portal circulation to normal non-toxic and assimilable products, etc. The treatment was discussed, and several cases reported in which remission had lasted from three to seven and one-half years.

Dr. Alex. M. Campbell, of Grand Rapids, read a paper, "Some Remarks on the Use of the Cystoscope with Stereoscopic Illustrations." On account of lack of direct current, the stereoscope had to be dispensed with. The Doctor outlined the technique and difficulties of cystoscopy, and demonstrated some new instruments.

Both papers were fully discussed.

The Reynolds Bill, the medical bill introduced by the State Medical Society, was discussed and endorsed. The chiropractic bill was also discussed, and a resolution adopted to the effect that we look with displeasure upon any plan to legalize the practice of medicine, or any part of it, by persons without adequate training.

The State Secretary, Dr. Wilfrid Haughey, of Battle Creek, was present, and addressed the Society, especially answering questions regarding legislative matters.

D. MacIntyre, *Secretary.*

OTTAWA

The February meeting was held February 14, at the Council Rooms, Holland, Michigan.

Dr. Wm. DeKleine, of Grand Haven, Secretary of the "Good Roads Association," read a paper on the "County Roads System." He gave an instructive and interesting talk on the object of the movement, and stated that Ottawa County had contributed $5,000 in taxes to aid other counties to procure good roads without any direct local benefit. The plans, as given, are to have trunk lines through the County, connecting the larger cities for a beginning, and later to build the feeders. The State aid varies from $500 to $1,000 per mile, according to material used.

Dr. Wilfrid Haughey, State Secretary, read a paper on "Submucous Resection of the Nasal Septum." He briefly outlined the indications for the submucous resection of the nasal septum, and the technique of the several operations done in straightening the septum. He presented drawings showing some of the deformities and the steps in the operation. He called attention to a method recently reported to avoid perforating the mucosa when cutting through the cartilage, and advocated leaving the anterior inferior edge of the quadrilateral cartilage as a bridge, for the support of the tip of the nose, which occasionally droops following this operation.

Dr. H. J. Poppen, of Holland, read a paper on "Tachycardia," and gave a complete review of the literature on the subject. He gave the subjective symptoms of the beginning of his own case, and the reports of leading clinicians in regard to it. He closed his subject by reading reports of cases in the Journal, of two physicians who were subject to tachycardia, but whose manner of obtaining relief was so radically different.

Dr. Haughey then addressed the meeting in regard to the needs of the Journal, and reported the condition of our defense fund.

Geo. H. Thomas, *Secretary.*

WAYNE

At a general meeting held Monday, February 6, Dr. G. van Amber Brown read a paper on

"The Pathology of the Derivatives of the Primitive Foregut in the living,"

which he accompanied by lantern slide illustrations.

He emphasized the importance of the study of the pathology in the living as made possible by observation and study of conditions found in the

field of modern operation; he pointed to the advantage in positive diagnosis through this means as compared to the less complete post-mortem findings, upon which final diagnosis so often depends, and he further demonstrated that the post-mortem findings show only end results, while careful pathological study in the living not only brings out the physiological relations of associated organs depending often upon embryological facts, but also makes for greater surgical possibilities through the attainment of a more thorough knowledge of the early changes in primary disease, and this before such has become inoperable.

He further pointed to the importance of the study of pathology in the living by the surgeon, while operating.

As an example, he narrated an instance in which, while operating for pelvic disease, exploration of the upper abdomen through the pelvic incision revealed an unsuspected cholelithiasis. This was in a case which showed none of the symptomatology heretofore described as gall-bladder symptomatology, namely, vomiting, constipation, pasty stools and jaundice. Evidence, he said, is gradually accumulating from the study of living pathology, that none of these symptoms are essentially symptomatic of chololithiasis, and that when present they are indicative of complications.

Also after following up these patients and getting an anemnesis, one is able to elicit a history of symptoms referable to the stomach, which the patient refers to as indigestion. In this connection he has brought out the fact that by the study of pathology in the living we have better learned early symptoms and reduced the mortality in cases which heretofore were classified as incurable.

Instance: Ulcer of the stomach and duodenum has become a recent indication for operation, and affords a striking illustration of the progress of surgery in the last decade and a half.

Exploration of the abdomen has shown that recovering and chronic cases of indigestion were in a large percentage in reality gastric ulcer, with the result that in addition to the reduction of the mortality from nearly one hundred per cent. from medical treatment, to about five per cent. by surgical treatment in hemorrhage and perforation, and to twenty-three per cent. in chronic cases with malignancy, there has been eliminated the danger of cancer ingrafted upon the ulcer, which at the beginning was in itself benign.

As to duodenal ulcer, until recently scarcely anything was known of its symptomatology, and it was supposed to be a very infrequent disease, while the facts are that of gastric and duodenal ulcer, three-fifths are found to be duodenal.

Cancer, which was uniformly fatal under medical treatment, through the study of the newer pathology and the knowledge of its presence depending upon previous ulcer, has come to be viewed from a different standpoint, with the result, that if the operation is performed early and by men well trained in this field of operative work, the mortality will be less than 10 per cent.

In gall-bladder disease under medical treatment, no cure can be effected, while surgically the percentage of cures is more than 97 per cent.

In speaking of the pathology of pancreatitis he says that it is secondary to inflammation of other organs, notably from its close relation to the bile ducts, the common bile duct, in most cases, passing through the head of the pancreas.

The treatment of pancreatic disease is surgical.

He concludes by urging upon the general practitioner better early diagnosis, which may be attained by closer observation and by following these patients into the operating room.

The paper was discussed by Drs. Manton, Meddaugh, Blain, Freund, Davis and Yates.

Good Fellowship Evening

The first Goodfellowship evening of the Wayne County Medical Society was held on Saturday evening, February 11th, at the Wayne County Medical Society Building.

This was the first function of its kind ever conducted by the Society, and it is the earnest hope and wish of every member, especially those that were present, that it will not be the last.

The entertainment committee had endeavored to make this evening one to be remembered by every man, and it is to be congratulated, for it well succeeded. Besides the feeling of good fellowship which prevailed generally, the regular program was as follows:

Stories full of wit and humor by W. A. Blodgett, card stunts by Dr. Woodward, violin solos very artistically rendered by Dr. Carl Oakman, and songs by Dr. Earl Barkley.

One fact was clearly demonstrated on this occasion, namely, that the members of the Society will come together if they but have a suitable meeting place. We now have a suitable meeting place, but we have already out-grown its capacity. The urgent need of an auditorium has now become an absolute necessity.

There were three hundred present, and the overcrowding was the one objectionable feature.

This feature will, however, soon be eliminated. We were told that $10,000 have been paid on the building. This amount is over one-half of the entire cost of the building. Why not at the present time invest a little more, build an auditorium we so badly need, and at once enjoy the comforts thereof?

Even in our inadequate quarters everybody enjoyed a good time, and we hope that the near future will bring with it another such evening.

At the Surgical Section meeting held Monday February 13, Dr. J. A. MacMillan read a paper on

"Acute Post-operative Dilatation of the Stomach and Intestine."

Abstract. Acute paresis of the stomach and intestine is most commonly observed after abdominal operations. It is, however, not unheard of following operations in other parts of the body. The symptoms very closely resemble those of organic obstruction. In the latter there is usually vomiting, followed in the course of twelve hours to two days by distention of the abdomen. In acute post-operative paresis this picture is reversed, and we have distention of the abdomen from the very first. In fact, the condition of acute paresis may be present without vomiting. Especially is this so early in the course of the acute paresis. Vomiting, as said, is usually present, and after two or three days the vomitus becomes dark brown or green, even fecal in character. No gas or feces pass from the rectum. Cathartics and enemata fail to relieve the condition.

The following factors play a part in the etiology, profound toxemia, prolonged manipulation of the abdominal viscera, administration of morphine, and drastic purgation immediately before operation.

The prophylactic treatment is important. Here is especially to be noted the avoidance of much handling of the peritoneal tissue.

The active treatment consists in the evacuation of the offensive material from the stomach and affected part of the bowel. Gastric lavage gives relief when the stomach alone is affected.

Even if there is no vomiting in case of marked distention of the abdomen, the stomach tube should be passed, and in a large majority of cases it will demonstrate the presence of a large amount of dark brown or greenish material which is poisonous to the patient. When vomiting is present the use of the tube should not be neglected, for rarely is the stomach able to empty itself completely. As said before, the stomach tube should be used often, every hour if necessary to keep the stomach empty.

Enemata are useful if the part of the bowel affected is the colon.

When there is paresis of a portion of the small intestine which does not yield to either of these measures, an enterostomy is indicated and this should not be delayed. Here delay may cost a life. For the enterostomy a general anesthetic should not be given nor is it at all necessary. A general anesthetic will surely kill your patient. Under local anesthesia the abdomen should be opened and the first part of the distended gut that presents itself should be grasped, pulled into the wound, stitched there with two or three stitches, and opened immediately. Irrigation of the bowel through this opening should be employed several times a day.

When the gas and fecal matter are evacuated, improvement begins promptly, and in the course of three or four days there is restoration to the normal condition.

The paper was discussed by Drs. H. O. Walker, Angus McLean, J. H. Carstens, Wm. F. Metcalf, F. B. Walker, Alexander W. Blain, Johann Flinterman and C. D. Brooks.

At the general meeting of the Wayne County Medical Society held Monday, February 20, 1911, Dr. H. O. Walker read a paper on

"Skin Asepsis."

He first gave a synopsis of work in this direction since the time Pasteur demonstrated the cause of acute surgical inflammation. In the means for confining the same, Lister was the first to improvise, after repeated trials, a method of disinfection which was very cumbersome.

In the wake of this there has been a gradual improvement in the methods of preparing both the field of operation and the operator's hands. Furbinger introduced the use of alcohol, sixty to seventy per cent. being greater in bactericidal properties than absolute alcohol. Kronig and Futh have shown by their studies that the hot-water-alcohol method of Ahlfeld for hand disinfection at least is no better than many others, and further disinfection should be carried out.

After alcohol, bichloride of mercury probably stands at the top of the list as a means of disinfection of the skin. It has the property of working energetically and continuously for some time. In a great many clinics, Von Angerer's oxyamide of mercury has displaced bichloride entirely. It has the advantage of non-toxicity and not injuring instruments.

No greater refinement in technique has been given the surgeon than the introduction of gloves

by Friedrich. It goes without saying, however, that the same careful disinfection is to be carried out as if one were to proceed without them.

Of late iodine has come into vogue, and, as Senn remarked, "as an antiseptic, iodine has not received the attention it merits." The most common and most dangerous microbe with which the surgeon has to contend, the streptococcus pyogenes, is killed in two minutes when exposed to a solution of iodine of one fifth of one per cent.

Dr. Walker called attention to the experiences of Lausanne, Grossich and others with tincture of iodine as a disinfectant, and gave his own, which has covered more than two years, and at a conservative estimate, the tincture, 15%, he has used in more than one thousand applications. He has used it in the polyclinic at St. Mary's and Harper Hospitals and in country operating. In every condition a surgeon could encounter in this time he has found that Grossich's procedure of disinfection with 15% tincture of iodine is a decided addition to the difficult problem of obtaining asepsis in wound healing.

This paper was discussed by Drs. Parmeter, Fay, Spitzley, Blain, Longyear, Carstens, Davis and Frank Walker.

At this meeting the following new members were elected: F. B. Ashton, J. A. Beall, E. W Henderson, Thos. Kenning, J. M. Cooper, Edw. Rodd, A. D. La Ferte, J. F. Siefert, Douglas Rothschild, Rudolph Opperman and F. Harry Smith. As associate members: Leonard A. Seltzer, Rueben Peterson of Ann Arbor, E. A. Christian of Pontiac, N. S. Ferry, Norman S. Chamberlain and Gustave Gillbey.

Dr. Carstens moved that the letter received from the Nurses Central Directory be published in two issues of the bulletin. He also urged the doctors to take note of this letter, and remarked that it is only by means of the support of the doctors of the Wayne County Medical Society that this directory can possibly be a success.

On motion of Dr. Carstens the following resolutions were passed: *Whereas*, Dr. E. W. Haas has been an efficient member of the Board of Health, *Resolved* by the Wayne County Medical Society, that Governor Osborn be and is hereby requested to reappoint Dr. E. W. Haas to the Detroit Board of Health.

The communication regarding the chiropractic act was referred to the legislative committee.

At the meeting of the Medical Section held Monday, February 27, Drs. E. W. Haas and Hugo A. Freund read papers on the "Treatment of Parenchymatous Nephritis."

The first paper was by Dr. Haas, on

"The Dietetic Treatment of Acute and Chronic Parenchymatous Nephritis."

Abstract: the dietetic treatment must be adapted to the extent and nature of damage done to the kidneys. Every damaged kidney underfunctionates to a greater or lesser extent. The amount of albumin in the urine is not necessarily an index of the damage. The two substances chiefly concerned in retention are the chlorides and the nitrogen bodies. In the healthy, the chloride equilibrium is maintained because there is as much eliminated as is taken in in the food. Very small amounts maintain this equilibrium. The excess is eliminated by the healthy individual, almost all by the kidneys. The ability to excrete the chlorides may be much impaired. As soon as the amount ingested exceeds the amount excreted the salt is retained, water with it, weight is increased and œdema results.

The amount of nitrogen eliminated should be equal to the amount ingested. The individual is then in a nitrogen balance. Ninety per cent. is eliminated by the kidneys. Nitrogen elimination may be impaired with resulting increased nitrogen arrest in the blood. This may take place with chloride retention or may appear independently. The uremia of retained nitrogen is much more dangerous than that due to chloride retention.

Milk, the so-called "Karrell cure," is both salt-poor and proteid-poor, but is not salt-free. Salt-free diet should contain sufficient calories, with little salt, 1½ grams per day. Salt-free bread, unsalted butter, one to two eggs, cream, unsalted cheese, potatoes and cereals prepared without salt, sugar, and fresh meats prepared without salt, if necessary boiled to extract salt. If the amount of salt be kept down we can limit the amount of fluid. In nitrogen retention the nitrogenous elements should be stricken from the dietary for a time. We may give water, carbohydrates, sugar and occasionally vegetables. In acute nephritis and in the acute exacerbations of chronic parenchymatous nephritis rest is needed. We give small quantities of water, to which may be added one hundred to two hundred grams of sugar, if necessary, to furnish the corresponding calories.

The second paper of the evening was read by Hugo A. Freund, on

"The Treatment of Acute and Chronic Parenchymatous Nephritis, other than Dietetic."

Abstract: The only true forms of nephritis are the acute and chronic parenchymatous. Interstitial nephritis is primarily a cardiovascular disease.

The treatment may be grouped under three heads: 1, Rest for the kidneys. 2, Prevention of retention of waste products. 3, Symptomatic treatment.

In acute forms rest is instituted in order to obtain a return of the normal functions.

In the chronic state we must attempt to prolong life by taking all unnecessary work off the kidneys and by preventing complications.

To establish rest, means placing the patient in bed until all symptoms and signs have abated. The heart must be as quiet as possible, best obtained by the ice-bag over the precordium. The functions of the digestive tract must be strictly supervised. Fever when present is better controlled by hydrotherapy. These all give rest to the kidneys. They are engorged with blood, fluid, toxins and necrotic products. Only chipped ice and a maximum of 500 c. c. of fluid should be given daily, so as to permit a return of function. Heat, wet cups or a cautery over the kidney region relieves pain. In no other condition does blood-letting cause so much good. The ice-bag in my experience does harm.

Relief of the symptoms caused by retention can be brought about by diaphoresis, catharsis and diuresis.

Mild diaphoresis removes up to 29 per cent. of retained products. Severe sweating may carry off even 50 per cent. of such substances. The pack, steam bath or hot air cabinet may be employed. They should all be carefully watched, for with threatened uremia they may precipitate an attack by concentrating those substances that cause uremia.

Catharsis is always to be resorted to. The salines, especially in concentrated form, work well. Jalap and elaterium are often to be preferred in individual cases.

Of the diuretics the digitalis group are more often available. Digitalis not only has a local diuretic action, but it relieves chronic passive congestion and improves the circulation in the kidney. It is unfavorable in the presence of high-blood-pressure. The caffein series, diuretin, caffein sodium benzoate, agurin, theocin, etc.,have a great diuretic effect especially when taken with water. Calomel, (we are not sure how it acts), may always be employed, for it also acts by increasing intestinal elimination. There are many other milder diuretics. The best of all, and where increase of flow through the kidneys is sought, is water given in copious draughts.

The hygience of the chronic nephritic must be supervised. Warm clothing, equable climate and freedom from exposure to cold is desirable. Warm baths 90 degrees to 95 degrees are always advisable. Moderate exercise and massage are useful adjuncts.

For the anemia iron, as we find it in Basham's mixture or the syrup of the iodide of iron, answers all the requirements.

The papers were discussed by Drs. Donald, Jennings, Walter Parker, Geo. Duffield; W. J. Wilson, Jr., Kiefer, J. E. Clark and Morley.

At the meeting of the Wayne County Medical Society, held Monday, March 6th, Dr. C. Hollister Judd read a paper on

"Blood Pressure in Pregnancy."

Abstract: The object of the paper is to show the normal and abnormal changes in blood pressure during pregnancy, parturition and the puerperium; also, if possible, to elucidate any relationship between blood pressure and marked conditions of the kidneys, liver and circulatory system.

After numerous experiments with various instruments, the Tycos instrument was chosen and used in all the experiments. The differences in the instruments make it difficult to compare the results of the various writers. For this reason one instrument was used, and the results accordingly are more uniform.

Some observers found a typical rise in blood pressure, beginning in the early months and progressing in height as pregnancy advances. This the writer was unable to demonstrate. On the contrary, this series of cases led him to believe that the normal circulatory system is fully capable of bearing the increased work of gestation without showing any increase of blood pressure.

To be of the greatest use in obstetrics, the blood pressure should be first taken in the early months, and a blood pressure chart should be kept.

The relationship of the blood pressure to the condition of the urine was found to be quite constant. In a typical abnormal case the increased blood pressure or nucleo-albumin would first appear; then, as the pressure increased from 15 to 20 m. m. of mercury, serum albumen and serum globulin would be found in the urine. The height of the blood pressure increases in about the same proportion as these two elements increase in amount.

During labor, as the pains begin to be frequent

the mean pressure is raised considerably above the normal. When a pain appears there is at first no elevation of the blood pressure, but in a minute or two the blood pressure rises and its height and duration are approximately the same as the uterine contraction.

After labor the blood pressure falls below normal. It again gradually returns to normal in about two weeks.

Conclusions: 1. A careful urinanalysis should always be made; regard with suspicion a trace of albumen; separate the albumens in dangerous cases and use an Esbachs albuminometer.

2. Nucleo-albumen is nothing like as dangerous a constituent of the urine as are serum-albumen and serum-globulin.

3. Patients after delivery or eclampsia with high blood pressure should be kept under observation. Notice if the pressure falls normally after labor.

4. High pressure with cerebral symptoms, serum-albumen and serum-globulin in the urine, consider emptying the uterus before convulsions appear.

5. Great hypertensions, like hyperpyrexia, may require treatment in itself.

6. It is likely one could foretell or prevent eclampsia by a blood pressure chart.

7. Blood pressure charts would be of service in foretelling shock, and also concealed hemorrhage from the association of these conditions with the vaso-motor system. A woman can bleed to death in her own abdominal vessels.

This paper gave a report of two hundred cases embracing the work of the last two years. The greater part ot this work, he said, was done in the well equipped Grace-Whitney-Hoff research laboratory of the Women's Hospital.

The paper was discussed by Drs. Manton, Mercer, Yates, Carstens, Holmes, Bell and Longyear.

The following new members were admitted: active member, Carl F. Muenz; associate members, Archibald W. Diack, C. B. Burr, and Chas. T. Southworth.

MEETINGS HELD AT THE HOME

On Wednesday, Feb. 15, the Oto-Laryngological Society met. The program was as follows:

a. Stereoscopy of Sinuses and Mastoid, by Dr. P. M. Hickey.

b. Sarcoma of the Mastoid Region, by Dr. Emil Amberg.

c. A New Light, by Dr. Harold Wilson.

d. Technique of Tonsil Enuncleation, by Dr. R. E. Mercer.

On Thursday, Feb. 16, Dr. Prince A. Marrow, of N. Y., gave a lecture on "Sex Hygiene." This lecture was under the auspices of the Society for Sex Hygiene.

On Thursday, March 2d, the Detroit Medical Club met. Dr. Stevenson read a paper on "Contribution of Physiologic Chemistry to Therapeutics."

The formal opening of the Wayne County Medical Society Home at 33 E. High Street occurred Wednesday evening, March 22d, with a reception to members, their ladies and guests, given by the president and ex-presidents of the Society.

R. C. Andries, *Correspondent.*

NEWS

Dinner to Dr. Connor

In recognition of his completion of forty years in the practice of medicine, and of his high attainments in his profession, his medical confreres gave Dr. Leartus Connor a dinner at the Detroit Club, February 23, 1911. Toasts were responded to by Drs. W. P. Manton, L. E. Maire, C. B. Stockwell, Guy L. Kiefer and F. B. Tibbals. The arrangements committee consisted of Drs. J. E. Emerson, A. D. Holmes, A. P. Biddle G. E. Frothingham and B. R. Schenck.

Ninety-eight guests were present to do honor to the man who by continuous service has done so much for his brother practitioner.

Corinna Borden Keen Research Fellowship of Jefferson Medical College.—The accumulated income of this fund now amounts to $1,000. The fellowship will be awarded by the Trustees upon recommendation of the Faculty to a graduate of the Jefferson Medical College of not less than one, nor more than ten years' standing, upon condition that he shall spend at least one year in Europe, America, or elsewhere, wherever he can obtain the best facilities for research in the line of work he shall select, after consultation with the Faculty; and that he shall publish at least one paper embodying the results of his work as the "Corinna Borden Keen Research Fellow of the Jefferson Medical College." Address

Dr. J. W. Holland, *Dean.*
Philadelphia.

Beware of Itinerant Morphine and Cocaine Tablet Peddlers.—Manufacturers, jobbers, dispensers and others obliged to keep considerable stocks of morphine, cocaine and various forms of tablets of the same, suffer considerable loss from theft owing to an illegitimate demand and the ease with which the drugs are concealed about the person.

A man described as about 5 feet 10 inches, light brown hair, wearing a light gray overcoat, well dressed, nice looking, with a nice way, seeming to know the price of morphine and cocaine, etc., called on the Hort-Schaeffer Drug Co., Omaha, Neb., about January 23d, and tried to sell 5,000 H. T. 26 P. D. & Co. at $5 per M; said he had sold 30,000 already and had 5,000 more to sell. Refused to call again to see Mr. Hort. When the clerk tried to get finishing number he took package away from him with the remark: "If you don't want them o. k., I can sell them without any trouble." He claimed to be from the East—either New York or Philadelphia—saying he sold different things at different times, and now was the time to get in easy, as morphine, etc., was going up all the time.

Dr. Frank Smithies has been ill for about three months, and is now recuperating at Lakeside Cottage, Lake Geneva, Wis.

COMMUNICATIONS

New York, N. Y., March 13, 1911.

Dear Doctor:—

At a meeting of the House of Delegates of the American Medical Association held in St. Louis, Wednesday, June 8, 1910, the following resolution was presented by Dr. Hubert Work, of Colorado:

Whereas, the plan of organization of the profession carried to its logical conclusion means that every member of a county society should be *ipso facto* a member of the American Medical Association, just as every member of a county society is *ipso facto* a member of a state society, and as it is the ultimate end of the plan that the American Medical Association should be coextensive with the organized profession throughout the land, and as nearly, if not quite, every state already has adopted the plan so far as making every member of a county society a member of a state society, therefore be it

Resolved, That the President appoint a committee to draw up details for extending the plan to the American Medical Association, and to present this plan to the various state societies for their consideration during the coming year, and to make a report at the next annual meeting of the House.

Dr. Alexander Lambert, of New York, moved as an amendment that the resolution be referred to the Board of Trustees, because it means a separation of *The Journal* from the membership in a manner which involves the finances of the Association.

The amendment was seconded, accepted, and the original motion as amended was carried.

The Trustees have given this matter full consideration, and at a meeting held in Chicago on February 3, 1911, the following resolution was passed:

Resolved, That the Board of Trustees refer to the various State societies the question of the desirability of extending the plan of organization as represented in the foregoing resolution, and request that the various state societies take action on this matter and report to the Board.

In accordance with this last resolution I beg herewith to transmit the matter to your Society for consideration, and request that your report be sent to the Board of Trustees, American Medical Association, 535 Dearborn Ave., Chicago, Ill.

Very truly yours,

Wisner R. Townsend,
Secretary Board of Trustees A. M. A.

Dr. Wilfrid Haughey,
Secretary Michigan State Medical Society,
Battle Creek, Mich.

Detroit, Mich., March 21, 1911.

Wilfrid Haughey, M. D.,
Battle Creek, Mich.

Dear Sir:—In the Journal of the Michigan State Medical Society, I notice your editorial on life insurance examination fees, and I hope the members of the Society will uphold those views.

Life insurance success depends upon careful examination by the physician, and this takes time and skill, and these should be paid for.

When I became Medical Director of the Detroit Life Insurance Company, the first thing I insisted on, was that the fee for medical examination should be five dollars, and if any special examination would be required, an additional fee should be paid.

This seems to me the only correct view. If

we all stick together, we will gain our object. All insurance companies who do not pay the regular fee should be tabooed.

Yours truly,

J. H. CARSTENS.

DETROIT, MICH., March 14, 1911.

WILFRID HAUGHEY, M. D.,
Sec. Michigan State Medical Society,
Battle Creek, Mich.

Dear Dr. Haughey:—The following states are in reciprocity with Michigan at the present time:

QUAL. I.	QUAL. II.
District of Columbia	Georgia
Georgia	Indiana
Illinois	Iowa
Indiana	Kansas
Iowa	Kentucky
Kansas	Maine
Kentucky	Maryland
Maine	Minnesota
Maryland	Missouri
Minnesota	Nebraska
Missouri	Nevada
Nebraska	Ohio
Nevada	Vermont
New Hampshire	West Virginia
New Jersey	Wisconsin
New York	Utah
North Dakota	New Hampshire
Ohio	Arkansas
South Carolina	Tennessee
Vermont	Louisiana
Virginia	
West Virginia	
Wisconsin	
Wyoming	
Utah	
Texas	
Arkansas	
Louisiana	
Tennessee	

Yours very truly,

B. D. HARISON, *Secretary.*

BOOK NOTICES

The Blues (splanchnic neurasthenia), Causes and Cure. By Albert Abrams, A. M., M. D. (Heidelberg), F. R. M. S., illustrated. Fourth edition, revised and enlarged. New York: E. B. Treat and Company, 241-243 West 23rd Street, 1911.

Seekers after a cause for The Blues will find much in this book to encourage their search. Through the work an optimistic view is taken of a pessimistic subject. Causes are discussed, and where possible, means to avoid them are pointed out. Defects in treatment and how to correct them are indicated.

The subject is treated under various appropriate headings, and attention is called to the numerous disturbances in the physiological action of different organs that will cause The Blues, or neurasthenia, as disturbances in circulation and blood pressure from arterial changes, congested liver, intestinal auto-intoxication, etc. The book is well illustrated, and the following quotations show the scope of thought:

"Man by the unbridled indulgence of his passions is constantly paying the penalty for his sacrifice of self control."

"Heredity and environment may be effectually fought by personal effort."

"Mold and decaying vegetables in the cellar weave shrouds for the upper chambers."

The author lays particular stress upon the causes of The Blues, and insists that each cause requires its own particular method of treatment. In speaking of hereditary causes, he uses these words, "We must not forget, however, that the autocratic reasoning of the hereditarian is by no means final, nor must we blindly submit to a ruling which would deprive the unfortunate neurotic of all hope.

Compend of Gynecology. By William Hughes Wells, M. D., Associate in Obstetrics in the Jefferson Medical College. Fourth edition, revised and enlarged, with 153 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. Net $1.

The value of Compends in general is a mooted question. They try to cover a field that is too large for the space, but many succeed surprisingly well in covering that field. Dr. Wells in this compend has stored up a wealth of information in short, clear phrases, and arranged in such an easily accessible manner that we cannot but commend the book to those too busy to search the larger texts.

Manual of Physical Diagnosis. By Brefney Ralph O'Reilly, M. D., C. M., F. T. M. C., Toronto, M. R. C. S., Eng., L. R. C. P., London, Demonstrator in Clinical Medicine and in Pathology, University of Toronto. With six plates and sixty-six other illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. $2.

This is a very attractive little book with round corners, printed in a large, easily legible type on a high machine finish paper. The cuts and plates are excellent. Each paragraph is indexed in blackfaced type. The text is simply and clearly written, and just complete enough to make the book a valuable aid in the ordinary case. It is not an exhaustive treatise on diag-

nosis, but is remarkably complete for its size, and is fully up to date.

Modern Treatment. The Management of Disease with Medicinal and Non-medicinal Remedies; in contributions by American and foreign authorities, edited by Hobart Amory Hare, M. D., assisted by H. R. M. Landis, M. D. In two volumes, Volume II. Illustrated. Lea & Febiger, Philadelphia and New York.

The second and final volume of Modern Treatment and Management of Disease with Medical and Non-medical Remedies, by Hare, is now complete, and in every way upholds the impression made by the first, which was reviewed in the January number 1911, to which the reader is referred. For a two volume work the subjects are handled more at length than would at first seem possible, and while argument is not indulged in and theory and opinions are sometimes shortened, this is not done at the expense of clearness and scientific demonstration. For example, in treating malarial infection, the role played by the anopheles mosquito is thoroughly explained, with cuts of sections of the stomach and salivary gland, showing development of plasmodium from its ingestion by the mosquito to the final development and infection of a new patient, also plates showing plazmodium in all the variations in the blood cells.

In this work the term heart failure is elevated to the dignity of an entity recognized as a disease, and the condition explained as a lowering or lessening of heart force. The heart is described as having two forces, a rest force and a work force. Heart failure begins by lessening the work force, and becomes serious (fatal) when the rest force is lessened or diminished.

The anemias and leukemias receive sufficient attention. Two good plates show stained blood cells, and materially aid in understanding these conditions. Two beautiful cuts of pellagra, one of face, one of hand, are interesting, and beautifully illustrate the descriptive text of the new subject so nicely given by Harris in this work.

Many of the special subjects receive attention; thus the two volumes cover the active field, and will be found to be a valuable treatise on the modern understanding of practice of medicine.

Lessons on the Eye, for the use of undergraduate students, by Frank L. Henderson, Chairman of the Ophthalmic Section of the St. Louis Medical Society; Ophthalmic Surgeon to the St. Mary's Infirmary, etc. Fourth Edition, Revised. Philadelphia: P. Blackiston's Son & Co., 1910. $1.50 net.

This little book is profusely illustrated, and the many affections of the eye are clearly and concisely described. Cause and treatment receive their fair share of consideration, but details are purposely omitted throughout the work. It is a useful handbook on the subject.

Golden Rules of Diagnosis and Treatment of Diseases, Aphorisms, Observations and Precepts on the methods of examination and diagnosis of disease, with practical rules for proper remedial procedure, by Henry A. Cables, B. S., M. D., Professor of Medicine and Clinical Medicine of the College of Physicians and Surgeons, St. Louis; Consultant, Jefferson Hospital, St. Louis, etc. St. Louis: C. V. Mosby Company, 1911. Net, $2.50.

This book should be on the desk of every practising physician in the United States; not in his library, but on the desk, where he can refer to it twenty times a day. It is made up of short, terse statements of diagnostic facts, heretofore unassembled and inaccessible, except in large volumes and extensive works. More practical points can be looked up in five minutes in this book than can be found in the large volumes in two hours of toilsome reading. It is short, practical, handy, good.

Systemic (including Special) Pathology. By J.George Adami, M. A., M. D., LL. D., F. R. S., Professor of Pathology, and Albert G. Nicholls M. A., M. D., F. R. S., Assistant Professor of Pathology in McGill University, Montreal. In one octavo volume of 1160 pages, with 301 engravings and 15 plates. Cloth, $6 net. Lea & Febiger, Philadelphia and New York, 1911.

This is Volume II of Adami and Nicholls' Principles of Pathology. Like Vol. I, it is profusely illustrated, many of the illustrations being original, and published here for the first time. The text is divided into various systems, and each treated in a section by itself, and as a separate entity: the cardiovascular, the respiratory, the alimentary, the nervous systems, the ductless glands, the urinary, reproductive, tegumentary, muscular, and osseous systems. These are handled fully and entertainingly, as much as the subject will permit. The work makes the subject of pathology much different from the dry grinding so many of us found it when in college. This set of books is second to none as a working library of pathology.

Plastic and Cosmetic Surgery, by Frederick Strange Kolle, M. D., Fellow of the New York Academy of Medicine; Member of Deutsche Medicinische Gesellschaft, N. Y., etc. With one colored plate and five hundred and twenty-two illustrations in text. New York and London: D. Appleton & Co., 1911. Net, $5 cloth, $6 half leather.

Plastic Surgery is an important department, one that is appealed to by many persons with blemishes or defects both hereditary and acquired. These defects are a continual annoyance to the patient who wishes relief. The subject is unsatisfactorily treated in our general text books, and only at random in our journals. This volume is most complete, gathering material from every source, and presenting it well illustrated, show-

ing the technique of the operation, and in many instances the result. Much of this surgery does not give as happy results as we would wish, but only by a thorough study of various methods can one select the best for a particular case. To one who does any plastic or cosmetic surgery this book is valuable.

Care of the Patient. A book for nurses, by Alfred I Hanes, A. M., M. D., with six illustrations. Philadelphia P. Blackiston's Son & Co., 1911. Net, $1.

This is a very thorough little book, giving explicit directions to the nurse, telling her exactly what to do in caring for her patient. There are two chapters on Medical Nursing, one on Surgical Nursing, one on After Care of the Patient and two on Maternity Nursing. Each step in the procedure of the nurse in making dressings is set forth serially and plainly.

The book will prove of great value both to the nurse and to the physician who instructs her.

A Handbook of Practical Treatment. In three volumes. By seventy-nine eminent specialist. Edited by John H. Musser, M. D., Professor of Clinical Medicine, University of Pennsylvania, and A. O. J. Kelly, M. D., Assistant Professor of Medicine, University of Pennsylvania Volume I: Octavo of 909 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Per volume, cloth, $6, net; half morocco, $7.50 net.

Volume I of Musser and Kelly's Practical Treatment has reached us. It is a beautiful volume, devoted to general principles, physical methods, intoxication, blood, lymphatics and ductless glands. It is a broad, deep, substantial foundation for the superstructure of the two succeeding volumes which are to follow.

The phenomena of life, health, disease, are constantly yielding their secrets. Ideas of two decades ago are no longer tenable. Teleology considers man as an organism of the highest type, biologically subject to the same laws that govern the most elementary forms of life. The correct interpretation of these laws, with the proper enforcement of their requirements, form the basis for an elaborate and fascinating discussion on preventive treatment, dietetics, drugs, serum, and organotherapy.

A chapter on Rest Cure, Work Cure, and Psychotherapy is followed by others on Exercise, Massage, Mechanotherapy, Hydrotherapy, Balneotherapy, Climatotherapy, Artificial Aerotherapy, Electrotherapy, Radiotherapy, Miscellaneous Therapeutic Measures, and General Care and Management of the Sick.

Chapters on food intoxications and other poisons, reptile and insect venoms and bites, drug habits, blood and ductless glands complete this volume.

One is impressed with the thoroughly scientific tone of each article. Wherever convincing answers and reasons cannot be given, the fact is so stated, and a wise and judicious silence is maintained.

This fascinating volume promises much, which, if carried out, in the two that are to follow, will place before the profession a work unexcelled by any now obtainable.

The authors seem to have hit upon a way to discuss scientific subjects in a pleasing and entertaining manner.

Sample quotations from the book:

"I remain largely influenced by the belief that the average food-intake of a large number of normal persons, a food-intake that is determined for the most part by the appetite, is a fairly close indicator of the average normal man's wants."—DAVID L. EDSALL, in "Starvation and Overfeeding."

"Development of immunity is the natural termination of many acute infectious diseases, provided the infection and its consequence do not destroy the cellular mechanism of self-healing."—LUDVIG HEKTOEN, in "Serumtherapy."

"Write your own prescription. Do not be coaxed or bullied into the use of myriads of ready made formulas and proprietary mixtures."—M. HOWARD FUSSELL, in "Care and Management of the Sick."

SALVARSAN

C. H. McKenna, Chicago (*Journal A. M. A.*, March 18), says his own experience and the observations he has made in Europe and this country convince him that under no circumstances should salvarsan be used without also using mercury or the iodids. He considers it, however the therapy of election in the early treatment of the primary lesion in all affections of the mucosa mouth, throat and nose, in obstinate cases with cutaneous lesions resistant to mercury or the iodids, in all cases of gummata, in affections of the central nervous system where the spirochete may remain as the exciting cause, in congenital syphilis, and in the galloping syphilis of Unna. Before it is used, of course, the cautions insisted on by Ehrlich must be followed out, i. e., that the patient must be in a healthy condition apart from the specific disease The immediate efficiency is judged by the Wassermann reaction becoming negative within a reasonable period, usually in about five weeks, and he reviews the published experience of those who have reported in regard to this. Of the

methods of using the remedy, only two need be considered—the intramuscular (including the suprafascial) and the intravenous method. He quotes a letter from Ehrlich stating his preference for the intravenous method. McKenna, however, thinks the latter more dangerous and the extravenous methods equally efficient.

ADVERTISING AGENCIES

Some people seem to have a peculiar idea of their real place in the world of work; they seem to think it is their duty or their right or their prerogative to run other people's affairs for them Thus the life insurance companies, a few years ago, considered it their duty or their right to fix the fees which physicians should charge for making examinations for life insurance. Most of them have gotten over that idea. The New York Life still is possessed of the obsession, however, and therein should receive the condemnation of every reputable physician; if all would follow the example of the physicians in San Mateo County, the New York Life would wake up. Some advertising agencies are good enough to offer your Journal an occasional advertisement at most ridiculous rates; it might be suspected that the advertiser was paying regular rates to the agency and the agency "appropriating" (that is a mild word) most of the amount. Be that as it may, we desire to take this opportunity to say to such agencies that we are not a hold-up game, we are not an object of charity, we have not the official hat extended for receiving stray pennies of the charitable passing, nor yet are we an eleemosynary institution. We have definite advertising rates; we are glad to print proper advertisements at those rates; we deliver the goods we agree to deliver; we do not ask any favors from any one; advertising is a business proposition and we are in the publishing business—we are not here to be a party to the scheme of helping some one else get money from an advertiser for that some one's own personal benefit. We may add that this simple policy pays. A number of our advertisers have recommended this Journal to other advertisers; a large number of our readers have responded to our request to consider this question of advertising, have read the editorial notes on the subject from time to time, make it a rule to look through the advertising pages, and find that it is distinctly to their advantage to do so. Recently an advertiser wrote us that he had made a number of excellent sales from his advertisement in one issue, and stated that three or four people had voluntarily referred to an editorial on the advertising question. "It pays to advertise;" yes, and it pays to read advertisements. Do it; read those in your own Journal.—*Editorial California State Journal of Medicine, March*, 1911.

LEGISLATIVE MATTERS

(Continued from page 187.)

A bill has been introduced in the legislature, the title and text of which we have not yet seen, transferring the Examination of Embalmers from the State Board of Health to the State Board of Registration in Medicine. This work at present swamps the State Board of Health, would materially increase the income of the State Board of Registration in Medicine, thus helping to meet their present difficulties, and would not overtax their present facilities.

MICHIGAN STATE BOARD OF REGISTRATION IN MEDICINE

ADDITIONAL REGISTRATION IN MICHIGAN

Name and Address	College and Date of Graduation	Qualification	Date of License
Sears, Chas. Edward, Utica, Macomb, Mich.	Univ. Coll. of Med. Richmond, Va., May, 1899	Recip. Qual. I	2–16–11
Epperson, Adah, Traverse City, Mich.	Northwestern Univ., June 20, 1901	Recip. Qual. I	2–20–11
Negley, James Casper, Ann Arbor, Mich.	Dept. of Med. & Surg. Univ. of Mich., Dec. 21, 1910	Exam. Ann Arbor, June, 1910	3—2–11
Dobson, Gertrude, Quincy, Mich.	Hering Med. Coll. and Hosp., June, 1909	Recip. Qual. I	3–11–11

FRACTURES AND DISLOCATIONS

Conducted by

W. K. WEST, M. D., Painsdale

THE VALUE OF ANESTHESIA AND THE X-RAY IN THE TREATMENT OF FRACTURES

The majority of fractures will always be treated by the general practitioner, even though he may do little other surgical work. Many of these cases require considerable skill and surgical judgment, and the physician should be familiar with the best methods of diagnosing and treating these injuries if he expects to meet with success. He should possess a thorough anatomical knowledge of the parts involved, the muscular attachments and actions, and the vessels and nerves in the region of the injury. Poor results will follow, sometimes, the most correct and skilful treatment, yet we know that such results are more often due to lack of experience or improper care of the attending physician. These are the cases that, more often than any other branch of our work, give rise to malpractice suits, so that we should be able to use any means that will enable us to correctly diagnose the injury and apply the proper treatment. There are two measures which I wish to refer to because I do not believe that they are used to the extent that they should be. They are general anesthesia and the X-ray. I know that ether or chloroform are used frequently, and probably always, where the injury is severe or the manipulation of the parts accompanied by great pain. Some fractures require no anesthetic, but there are no doubt many reduced without it, when its use would be of very great advantage. With the patient quiet and the muscles completely relaxed, the physician can have a clearer idea of the extent of the fracture, and the associated injury of the soft parts, and a better approximation of the ends of the bones secured.

All will admit the value of the X-ray in diagnosing injuries of bones, but believe that it is only in a certain few fractures that its use is really necessary, and consequently in only a very small percentage of cases is it used Like many other things, its great value in many cases is not appreciated except by those who have used it a great deal. Emil Beck, of Chicago, in a recent article in Surgery, Gynecology, and Obstetrics, says that "the radiograph has now become a diagnostic agent so useful as to be almost indispensable. Nevertheless, there exists among surgeons and general practitioners an undercurrent of skepticism as to its real value." I do not believe that it is more clearly indicated in any class of surgical cases than in fractures, and instead of its use being limited to the few cases that it is now used in, its use should become much more of a routine by the general practitioner. In the Copper Range Medical Service we are now using it in a large proportion of our cases, and in over a hundred skiagraphs of fractures treated last year we have been convinced of its great value a number of times, in those cases where the physician might not believe it was needed. A mistaken diagnosis between a sprain of the ankle or a fracture of the lower end of the fibula is no doubt not uncommonly made; and fractures of the bones of the hand or foot may be quite difficult to detect and the injury considered only a severe bruise. In these cases the patient may be incapacitated from work much longer than his doctor had given him to understand, and he may seriously question the correctness of the treatment. In fractures of the long bones, particularly where there is much displacement, or crepitus easily heard, the diagnosis is readily made, but in some of these fractures, where there is little displacement or the bones impacted, or the patient fleshy, the diagnoses may be in doubt without the skiagraph. In some cases, if only one skiagraph is taken, it may be more satisfactory and important to have it a few days after the splints have been applied, to know if a proper reduction of the fracture has been made and if the bones are being held in good position. In hospitals it can be arranged to have the X-ray machine taken to the bedside for those injuries where the patient can not be moved without displacing the bones. We have found this very satisfactory in fractures at the hip joint or of the femur.

Many busy physicians will be unable to spend the time required in taking skiagraph and developing the plate, and the fluorescope is not satisfactory. But there might be in any of the smaller cities or towns one physician able and willing to do this work, and if he received the encouragement and support from the other doctors, he might be willing to equip himself for it. Younger physicians, not rushed with practice, could do this work with great benefit to themselves and the community, and most patients will appreciate the efforts of their attending physician to have a correct diagnosis made and will be willing to pay the additional fee. The use of the skiagraph should not exclude other methods of detecting fractures, but it will frequently enable the physician to be more accurate in diagnosis, and his results more satisfactory than they can be without it. The public are always entitled to as correct a diagnosis as possible, and if the X-ray was used in conjunction with other means more often than it is, there would be fewer bad results, and the physician spared the embarrassment of a wrong or incomplete diagnosis.

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ORIGINAL ARTICLES

SURGICAL AFTER-TREATMENT*

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Detroit, Mich.

Some one has remarked that a patient's fate is sealed as he leaves the operating table, and to no small extent is this true. But a glance at the standing orders of the several surgeons of any large hospital would indicate that the majority of operators have most decided views on the care of patients after they have left the operating room.

It is impossible to take up at length the indications for treatment following the several operative procedures which are now performed for the multitude of diseases to which flesh is heir. It is thus my sole desire at this time to elaborate upon but a few of the general principles underlying the care of patients following an operation.

The American surgeon has been quick to grasp new ideas and apply the same to his operative technique, but there is a tendency to cling to tradition in post-operative treatment.

After-care is entrusted largely to the tender mercies of the house-physician, whose education in such matters has been received from his predecessor, and usually conforms to the prevailing ideas of the hospital of which he is a member. This coupled, only too often, with set rules tends to lead him into routine methods to which the patient has to conform. The point I wish to make is, that there is a lack of individuality in the after-treatment. We at times forget that no two cases are exactly alike, and while two operations may be similar, the underlying pathology and personal characteristics of the patient may be quite different.

With the improvement in operative technique, the abolishment of chloroform and more rapidity in operating, the post-operative treatment has become, to an extent, of lesser importance, because shock sepsis, gas and vomiting have likewise become far less frequent.

In Michigan the bugbear "ether-pneumonia" still holds sway with a few of its surgeons and a large number of the men in general practice, so that we still see chloroform so often selected, to the detriment of the patient,—either in sudden death at the time of the operation, in the hepatic degeneration following, or in the cases of protracted vomiting so familiar where chloroform is used as a routine anesthesia.

Vomiting following ether is undoubtedly more common than with chloroform, but is

* Read at the Forty-fifth Annual Meeting of the Michigan State Medical Society, Bay City, September 28. 29. 1910.

of a much milder type, and under proper treatment is soon corrected. Pneumonia, as a post-operative complication, while not common, is naturally very much dreaded. But it has been shown to be caused in many cases by direct extension of the infecting organism from the abdomen. It is probably caused in many cases by unnecessary exposure during the time the patient is being conveyed from the operating room through the long, cold halls to his bed.

Elaborate technique will eventually, I believe, be discarded by the better element of operators, as involving too much danger to their patient. I but recently witnessed a pyloric resection for carcinoma by one of the foremost German surgeons. The patient was considerably blanched and suffering from shock when he was turned over to an assistant for the closure of the abdomen. The assistant proceeded to spend fully a half hour in completing, in an elaborate fashion, what could have been done better in a few minutes. It is such unnecessary and harmful procedures as this that lead to pneumonia and many of the other complications following operation.

How long shall we keep our patients in bed? The answer to this question naturally varies to a great extent with the operation performed, the condition of the patient and the pathological processes for which operation was held. As a general rule I believe the sooner the patient is allowed on his feet the better. The Mayos, and others, have observed marked changes in blood pressure following prolonged stays in bed, with the result that the complete recuperation of the patient is correspondingly retarded. On the other hand, I fear the pendulum at present is tending to swing too far in the opposite direction, and good judgment is sometimes sacrificed for the sake of records. However, I think the quicker we can put our patients on their feet after the ninth or tenth day, the sooner will be their ultimate recovery.

In neurasthenic patients and the like we have other elements to deal with, and the value of further rest in these cases must not be lost sight of. In all surgery judgment is the keynote of success, and its importance in the after-care is ofttimes as great as at the time of operation.

I think it may safely be said that a patient, as a rule, passes through two stages of discomfort in operation: the fear of anesthesia before operation and the thirst following. Crile has recently dwelt at length upon the importance of eliminating the element of fear previous to operating. The element of discomfort following probably lingers in the mind of most patients longer. Why patients should not be allowed fluids after operation I could never understand. It is merely one of the traditions which have been so long handed down. Yet we see nurses busily watching patients to see that they do not steal water from a hot-water bottle or bag, under the supposition that this would be very detrimental. When we consider that the mode of elimination of the anesthetic is to no small extent by way of the gastric mucous membrane, it is quite easy to understand that any means which will aid in its removal will be of benefit. This end is accomplished by lukewarm water, a glass of water containing ten grains of sodium bicarbonate, or a cup of black coffee administered shortly after the patient comes out of the anesthetic. As a rule, nausea and vomiting, which would ordinarily continue from twenty-four hours to two or three days, can entirely be done away with.

Some have advocated the washing of the stomach at the completing of the operation by means of the lavage tube. This method is open to two objections: first, the danger in passing the tube with the patient anesthetized (I have known of one death by this method), and, second, it is best that a patient should be fairly out of the anesthetic at the completion of the operation.

However, it is often necessary in order to be able to relax the jaws sufficient to permit the passage of the tube to administer more ether. Thus we are performing the paradoxical procedure of administering more of that which we are trying to eliminate. Further, this extra ether has in turn to be eliminated after the patient has left the operating room.

Perhaps one of the oldest abuses which the surgical patient has to face is the use of the so-called heart stimulants. Stimulation undoubtedly has a place in post-operative treatment, though personally I have practically eliminated drug stimulants from my service. The use of them reminds me of the story of the woman who went to the doctor and explained to him that her husband was at death's door, and requested him to come over and pull him through. The stimulation too often performs the same services.

In most cases where the pulse is weak the best results are to be obtained by saline given by one of the several routes,—subcutaneous, rectal or intravenous. This coupled with heat externally and other mechanical means will eventually supplant the giving of whiskey, strychnine, nitroglycerine, *et cetera*, under the guise of stimulating the heart. Saline is at present the best means at our command to replace the lost blood, combat shock, and aid in diluting toxins and eliminating the waste products from the body. Its use by the drop method is also advantageous following a large percentage of operations, even though shock is not extreme, and aside from its well-known use in peritonitis, to relieve the thirst and aid in restoring the patient.

Morphine and atropine, while not usually given as a heart stimulant *per se* perhaps accomplish more in that direction than most of the other agents. While we are forced in many cases to look upon the administering of morphine as a necessary evil, the relief of pain and reduction of shock consequent upon its use is among the greatest supports at such times to the organism.

Last year I spoke at length before this Section of the dangers incident to dilatation of the stomach, or, more properly, dilatation of the foregut.* How often we see enemas administered repeatedly to a patient to relieve gas formation, when an examination would reveal the fact that the upper abdomen is the seat of the trouble. William Mayo has stated, half in earnest, that he has had his internes discard the stethoscope and carry a stomach tube. There is no condition which calls for earlier or more strenuous treatment than gastric dilatation. Regardless of other complications, its occasional presence should call for the frequent examination of patients suffering from "gas" after operation and a discontinuance of the many standing orders adhered to by house-physicians and nurses.

In conclusion, we should keep this in mind, as Crandon† has stated: "The fact that each surgeon eventually grows into a technique peculiar to himself, and that many different ways are successful, should make us liberal in spirit and constantly alert for new truth. No surgical life is so brief but it has seen new methods appear, vaunted as perfect, pursued for a time, only to fade away."

The points which I wish to lay special stress upon this afternoon are: First, fluids by mouth as soon as the patient regains consciousness. Second, the discontinuance to a large degree of the many so-called "heart-stimulants." Third, the importance of getting the patient out of bed early after operation. Fourth, prevention of pneumonia by unnecessary exposure from the operating room to the bed. Fifth, less routine dependence on standing orders and more judgment and individuality in the treatment of each case.

1105 Jefferson Ave.

*Journal of the Michigan State Medical Society, December, 1909.

†"Surgical After-Treatment," Philadelphia, Pa.

THE DIAGNOSIS OF GASTRIC ULCER*

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The diagnosis of upper abdominal conditions in general has not been developed with the same rapidity as has the understanding of pathologic conditions in the lower abdomen and pelvis. Within recent years, however, more attention and painstaking effort has been directed toward a clearer conception of diseased conditions in this locality, and as a result we are to-day in the possession of more rational data which although not complete, enables us in most instances to diagnose correctly individual conditions. The most conscientious efforts should be put forth to recognize these conditions in their incipiency, for by so doing much suffering will be obviated and many lives will be saved.

We must not look upon the organs here involved as being separate and distinct, for they are, anatomically and physiologically, practically a unit. So intimate, in fact, is their correlation that the perverted activity of one organ leads, in many instances, to evidence of functional or organic changes in others.

One of the most frequent pathologic conditions found in this locality is ulcer of the stomach. It, like conditions involving neighboring structures, appears at times with a clear-cut symptomatology, easy of correct interpretation, while again its presence is masked by obscure symptoms, which often simulate other pathologic states so closely as to elude detection, at least for a time. In fact, the first indication of the true condition present may be the onset of severe and occasionally fatal symptoms, such as a sudden severe hemorrhage or perforation with the accompanying peritonitis.

Often these patients have suffered only from what they please to call a chronic dyspepsia, but this is in reality only a symptom. The diagnosis of dyspepsia as such, a clinical entity, means nothing. Obscure ulcers are occasionally mistaken for simple hyperacidity, spinal disease, hysteria, neuralgia and rheumatism of the back muscles, etc.

Here I would emphasize the importance of a carefully developed history. Let the patient tell his own story from the earliest indication of trouble, for without such precaution one is liable to ask leading questions and unconsciously endeavor to fit the patient's symptoms to a preconceived notion of the conditions present. True it is that the history obtained may have no definite pointings, but when supplemented by a careful physical examination, with available laboratory procedures, useful and suggestive facts may be disclosed. If the data so obtained still points to obscurity, and the patient is not in apparent danger, it is permissible to treat him expectantly for a time, and during this period to watch carefully for suggestive manifestations.

The presence of occult blood in the stools, which may be determined only after repeated examinations, will prove a useful aid in arriving at a definite conclusion.

* Read at the Forty-fifth Annual Meeting of the Michigan State Medical Society, Bay City, September 28, 29, 1910.

Some cases will have no symptoms whatever that are referable to the stomach, and it is cases of this type that will often elude our best-directed efforts. In just such cases a carefully taken history is of great importance, for, as a rule, the correct diagnosis will, sooner or later, come to light, and the data obtained may be of considerable importance in enabling us to diagnose later obscure ulcers.

In any case with or without symptoms referable to the stomach, the general condition of the patient as regards anemia (possibly chlorosis in young girls), loss of weight, weakness, the appetite and the bowels should receive careful attention. The appetite may remain unchanged, or there may be more or less complete anorexia if pain is a prominent feature.

At times, and especially in cases of long standing, more or less pronounced nervous symptoms may be present and may amount to a melancholia. The duration of the disease will influence these factors materially.

The same observations as to the chemism applies in obscure cases as in those with symptoms referable to the stomach.

There is a class of cases accompanied by hypersecretion and increased free hydrochloric acid which were formerly classed as neuroses, but operative procedures have proven the presence of ulcers in a considerable number of these. In twenty-eight typical cases of this type Soupalt found an ulcer at the pylorus with varying degrees of stenosis. It would not be justifiable, however, to attribute all cases of this type to pyloric ulcer with stenosis, for other causes may be proven.

The great majority of ulcers give rise to symptoms which are obviously connected with the stomach, but not all are accompanied by all of the classical symptoms.

The so-called classical or cardinal symptoms are pain, epigastric tenderness, vomiting, hematemesis and visible or occult blood in the stools.

Pain varying in severity from a dull ache or a sore spot to a burning, gnawing, boring, cutting or cramplike pain, is a prominent feature in over ninety per cent. of all cases. It is usually localized early in the scrobiculus cordis, and not infrequently extends anteroposteriorly to the back; in fact, some patients will say that the pain goes straight through to the back. It may radiate in other directions, as into the lower abdomen or lower part of the chest or the arms.

Gastralgic attacks are frequent in some cases.

The epigastric tender-point is a valuable symptom, and usually corresponds to the site of greatest pain following the ingestion of food. It is, in the absence of ptosis of the stomach, usually located well up in the epigastric angle and very near to or just to the left of the median line. Riegel points out that in early cases it is often located just under the costal margin. Its position is usually constant throughout unless displacement of the organ occurs, and in this event it usually remains very near to the median line.

Patients with ulcer cannot, as a rule, tolerate close-fitting articles of wearing apparel, such as corsets, belts, etc., and they make an extra effort to protect the tender-point. Exceptionally, however, pressure may afford some relief.

Painful pressure-points are not infrequently found posteriorly along the vertebral column. The most useful one is that described by Boas, and located to the left of the spinal column and at the level of the tenth to the twelfth dorsal vertebræ. It may be on both sides or rarely on the right side alone. Occasionally it may be present and the epigastric tender-point absent; in such an instance it is of particular diagnostic value. To be of value it must be con-

stantly localized in the same spot. Boas claims its presence in one-third of all ulcer cases. Other dorsal pressure points are of questionable value.

Gastralgia almost invariably has its origin in the taking of food and the amount and character taken exert an important influence. Liquids in moderation are, as a rule, well tolerated. Care has to be taken that they be neither too hot nor too cold, for extremes of temperature may precipitate an attack. Solid food or too large quantities of any aliment will usually bring on an attack within a varying length of time after ingestion, depending somewhat upon the location of the ulcer.

Pain appearing directly after or during a meal would tend to indicate an involvement of the lower end of the œsophagus or cardia, but its occurrence may be delayed from one to three hours after eating, and in such a case the ulcer may be situated near to or at the pylorus. This, however, as well as other methods for locating the ulcer, cannot be considered wholly reliable.

At times the pain may be pre-meal, and in such instances it becomes more characteristic of duodenal ulcer, although not invariably so. Boas has said that pain occurring regularly ninety to one hundred minutes after the last ingestion indicates an ulcer located below the pylorus. This, I am sure, is not always true. Instances occur in which there is no relation between the appearance of the pain and the ingestion of food. Rutin is quoted in Osler's "Modern Medicine" as finding this condition in fourteen per cent. of 200 ulcer cases.

Relative to the cause of the pain, it may be said that the food ingested may, by acting upon the raw surface, induce it; or the peristaltic movements following the taking of food so disturb the circulation in the ulcer as to precipitate an attack. Perigastric adhesions may be and perhaps often are responsible.

One or two recent investigators have advanced the statement that there are no exposed afferent sensory nerves in the ulcer, and that the pain results from a lymphangitis about the ulcer and beneath the parietal peritoneum. This has not been proven, however. Various other theories of minor account have been advanced for its cause.

The relief of the pain is usually effected by vomiting, which as a rule occurs at the height of the gastralgic attack. The vomitus usually shows more or less well-digested food, depending upon the length of time it has been in the stomach; as a rule it will give a more or less marked acid reaction. In chronic ulcer at the pylorus with obstruction and motor insufficiency, old food will be present as evidence of retention.

Vomiting as a symptom stands next in frequency of occurrence to pain, and is present in from twenty-nine to ninety per cent. of all cases, varying in different groups. It is almost invariably preceded by pain and follows the ingestion of food. The character of the food exerts a distinct influence, solid food inducing pain and vomiting much more readily than liquids. Emesis usually follows the taking of food in from one to three hours, when digestion is quite well advanced, and ordinarily occurs with considerable regularity, although in some cases it may appear only at intervals. Some patients never vomit, but complain of nausea alone or nausea and flatulence.

The vomiting of blood, or hematemesis, is of great importance from the standpoint of diagnosis, but, fortunately for the patient, it is not so frequently present as either of the two prominent symptoms just mentioned. Its occurrence is very conclusive if the origin of the blood can be proven to be the stomach. Its frequency of occurrence is variously estimated at from twenty-five to thirty per cent. of all ulcer cases.

The patient is often taken without any premonition and at the most unexpected times, such as during sleep, while walking, following mild or severe exertion, during a meal, or after a too hearty meal which is followed by over-distention. There is no definite relation between the paroxysms of pain and the occurrence of the hemorrhage.

The source of the blood may be either arterial, venous, or capillary. From the two latter sources, and especially the last one, the amount vomited may be comparatively small. The stomach may be partly filled with blood from slow bleeding before it is vomited, hence the amount does not indicate with certainty its vascular source. Changes in the color occur, due to the transformation of oxy-hemoglobin to the hydrochlorate of hematin, and this is dependent upon the length of time the blood has been in the stomach. The appearance of the vomited blood will vary, therefore, from that of fresh blood to that resembling coffee grounds. When the blood is not vomited, but passed out in the stools, the latter will present, if there is a sufficient amount of blood, a dark brownish to black color, and the portions will have glistening shiny surfaces.

In a great many cases the bleeding is only occult, and may be detected by microscopic examination of the feces or vomitus or by any one of the following chemical tests, which are named in the order of delicacy of reaction: the benzidin test, the guaiac resin test, and the aloin test. The guaiac resin test is perhaps the one most commonly used.

Again, severe arterial bleeding may occur, and in some it is fatal within a few minutes, having resulted from the erosion of a large artery, such, for example, as the splenic. The stomach may fill with blood, and a fatality result before vomiting occurs; in other instances the hemorrhage is from a small artery or vein, and is controlled, the patient recovering. These patients present the usual signs of hemorrhage, which of course will vary in severity with the amount of blood lost.

It may be difficult at times to decide with certainty as to the source of the blood, and here it becomes necessary to consider the following possible points of origin; viz.: the mouth, the throat, the lungs, the disturbance consequent upon mitral disease, leukemia, splenic anemia, pernicious anemia, hepatic cirrhosis, hemorrhagic erosions of the gastric mucosa and fraud.

The one most likely to confuse is bleeding from the lungs, but this is usually easily separated by the presence of froth and the bright red color of the blood. Blood vomited, if food has been recently taken, will be mixed with food remnants and give an acid reaction. Other differential points are the past history, etc.

It is doubtful whether or not it is safe to designate an ulcer as acute or chronic from the character of the hemorrhage, for, as Mayo has pointed out, exacerbations of chronic ulcers may be mistaken for acute and the subsidence of the acute symptoms for a cure.

Various attempts to divide ulcers into acute and chronic, and to subdivide the latter according to the character of the bleeding, have been made. This hardly seems necessary from the standpoint of treatment except in cases where severe bleeding occurs.

With the foregoing cardinal symptoms present, an analysis of the stomach contents need not supplement them, but it may be useful as suggested in obscure cases. Here the question of safety in the use of the stomach tube must be considered. It should not be used in cases where there has been recent hemorrhage or when the diagnosis is already clear. It is true that it has been used many times without ill result, but possibly we do not hear of the bad re-

sults. In obscure cases its use is permissible providing the tube is in the hands of a competent operator.

What we learn from the analysis of the stomach contents cannot be said to be wholly conclusive, but the results may afford useful and suggestive pointings. The free hydrochloric acid may be increased, and is in a great many cases, while in others it may be normal, reduced in amount or absent, depending upon the age of the patient, the chronicity and location of the ulcer, and the presence or absence of stenosis of the pylorus. Those cases that are free from stenosis and comparatively recent may show unimpaired digestion and motility with increased or normal acidity, while chronic cases with varying degrees of obstruction are likely to give evidence of impaired motility with a variable amount of retention and impaired digestion of contents. Here the free hydrochloric acid may be reduced or absent. If retention is marked, blood, yeasts and sarcinæ may be found. Different test meals will give rise to a varying acidity. Graham and Guthrie pointed out that in older patients the acidity may be much lower, and due not to the extent or situation of the ulcer or to the degree of obstruction, but to fibrosis, the result of age or dissipation.

The more important complications and sequelæ of ulcer and conditions with which we often have to reckon, in advanced cases in particular, are severe hemorrhage, perigastric inflammation which may be either adhesive or suppurative, perforation with the attendant peritonitis, cancer engrafted on an old ulcer base, deformities of the stomach, the result of scarring, such as hour glass contraction, stenosis of the pylorus, with the associated dilatation and motor insufficiency, cardiac stenosis from ulcer high up and subphrenic abscess.

It not infrequently becomes necessary, in order to arrive at a correct conclusion, to exclude other conditions whose symptom complex resemble, more or less, that of gastric ulcer. The most important ones are as follows, and are named in the order of their importance: cholelithiasis, duodenal ulcer, carcinoma, chronic gastritis with atrophy of the gastric mucosa, idiopathic gastralgia, hyperchlorhydria, hemorrhagic exfoliation with loss of small portions of mucosa, hysteria, and hyperesthesia.

Occasionally cases come under observation in which it becomes quite impossible or at least very difficult to differentiate cholelithiasis from ulcer. The situation is most perplexing when the ulcer is located at the pylorus or in the duodenum. As in ulcer, there may be pain following the ingestion of food, and this by vomiting which not infrequently relieves the pain. Epigastric tenderness and hyperchlorhydria may be present, but blood is absent from the vomitus and the feces. Symptoms which are more or less conclusive, however, are likely to appear at any time, such as colicky pain in the right hypochondrium, and this possibly referred to the right scapular region, slight rise in temperature and vomiting and retching without relief of the pain. Traces of bile may appear in the urine and the sclerotics may be tinged with yellow. The right lobe of the liver is usually slightly enlarged and tender on bimanual palpation. Tenderness on pressure usually persists in the right hypochondrium following the subsidence of the acute symptoms. Patients with gall-stones very often enjoy intervals of comparative freedom from symptoms. A further differential point is found in the fact that a bland diet often precipitates an attack of biliary colic as readily as solid food. It must not be forgotten in this connection that the two conditions may occur coincidently.

In duodenal ulcer the pain, while it may be high up in the epigastrium, is usually to the right of the median line, and

the onset is, as a rule, delayed from two to four hours after eating. It is usually very severe, but may be absent for long intervals. There is less marked dyspeptic disturbances, especially vomiting, and hematemesis does not occur in the absence of pyloric regurgitation. Icterus is occasionally present in duodenal ulcer, but never in gastric unless associated with cholelithiasis or chronic cholecystitis. Hyperchlorhydria is not infrequent and occult blood in the stools is common. Some cases of duodenal ulcer are indistinguishable from gastric ulcer.

Cancer, if primary and independent of previous ulcer, is usually accompanied, comparatively early (depending upon the location), by greater emaciation, weakness, more profound secondary anemia, and is commonly found in patients past middle age. As a rule there is not as much epigastric tenderness and pain is not so dependent upon the ingestion of food; in fact, it often amounts to a mere gnawing or discomfort. It is more constant than ulcer pain unless the motor power is efficient.

Vomiting in cancer is usually irregular, and if there be much obstruction the contents will be old, and often considerable fermentation will have occurred. Not as much relief is afforded by vomiting as in ulcer. Free hydrochloric acid may be present, but is usually reduced in amount or totally absent, the acidity of the contents being dependent upon the presence of lactic acid. Eighty-five to ninety per cent. show an absence of free hydrochloric acid. Boas Oppler bacilli are frequently present. Vomited blood has usually undergone considerable change and resembles coffee grounds. Occult blood is more continuously present in the stools than in ulcer. Cancer at the pylorus is more progressive, and causes more marked symptoms early; loss of weight and strength are more rapid; vomiting and pain are pronounced. Dietetic measures do not afford the relief that is often obtained in ulcer cases. Loss of appetite is often marked. Any palpable tumor or mass is usually present earlier.

Ulcers free from degenerative changes and located at the pylorus may have been present for years, with more or less marked signs of dilatation due to spasm, scarring, hypertrophy or encapsulated exudate. Free hydrochloric acid is usually present.

Cancer engrafted on an ulcer base causes a more or less sudden increase in the loss of weight; emaciation and anemia become more pronounced, and the pain is aggravated. Free hydrochloric acid, if present, gradually disappears, and any mass or tumor present increases in size and may develop palpable nodules or irregularities.

Chronic gastritis with atrophy of the gastric mucosa may be differentiated by the absence of characteristic pressure points, by the independence of the paroxysms of the ingestion of food, and by the total absence of free hydrochloric acid and the ferments from the stomach contents.

Simple or idiopathic gastralgia occurs independently of the taking of food; epigastric tender-points are not so constant or are absent altogether; pressure frequently relieves the pain; vomiting is not so constant and fails to bring relief in most cases; the digestion is usually unimpaired and gaseous distention is not infrequent. Ulcer treatment if ulcer is suspected is of no avail. In chlorosis and pernicious anemia, an obstinate type of gastralgia occurs and must be carefully observed to exclude ulcer.

Simple hyperchlorhydria is usually dependent upon nervous conditions, and while increased free hydrochloric acid is present there is an absence of epigastric and dorsal painful pressure points and vomiting is rare. Pain may appear in from one to three hours after meals, or may waken the patient at night; the ingestion of alkalies or albuminous food not infre-

quently relieves and there are no occult bleedings. Simple measures, such as properly selected diet and alkalies, usually afford relief.

Hemorrhagic erosions with exfoliation of small portion of mucous membrane may cause difficulty at times. The pain is often severe and blood may be present in the vomitus. Pain may be induced by bland articles of diet and may appear two or three hours after meals. The finding of small pieces of mucosa in the washings of the empty organ serves to differentiate.

Hysterical patients with gastric symptoms simulating ulcer will show stigmata of the original disease.

Simple hyperesthesia will not, as a rule, cause difficulties in diagnosis.

DISCUSSION

DR. JAMES E. DAVIS, Detroit.—It seems to me that the majority of cases of ulcer of the stomach can be diagnosed accurately from three symptoms: the time of the pain, which is usually from two to five hours after taking food; the periodicity of the pain, going from a short time to a long period of time, the repeated periods having about the same duration. The attacks come and go, and as we get a careful history we cannot but be impressed with the fact that the periodicity of this trouble is more accurate than in any other disease; and then the third factor, that of food ease. These three cardinal symptoms will aid us in diagnosing the majority of cases of ulcer. In complicated cases, of course, exceptions will be found. For three convenient, easily remembered signs, I think these three are of greatest significance.

SYPHILIS AND THE NERVOUS SYSTEM WITH REMARKS ON THE WASSERMANN TEST AND "SALVARSAN"

William M. Leszynsky, New York, states that syphilis is one of the most frequent infectious causes of nervous disease. A syphilitic person may develop nervous manifestations that are not due to that disease. Thorough antisyphilitic treatment early in the disease does not always prevent nervous troubles. A positive Wassermann reaction indicates syphilis, but a negative one does not exclude it. This test is negative soon after mercurial treatment, and is positive in other diseases than syphilis. Its technique is not possible for the general practitioner. The presence of excess of lymphocytes in the cerebrospinal fluid and of the Noguchi globulin reaction are exceedingly valuable. They indicate some inflammatory process. Lumbar puncture is inapplicable in ambulatory patients. In syphilis the Wassermann reaction does not always mean a positive diagnosis, and in tabes in 34% of cases this test is absent. The primary lesion is not always followed by secondary symptoms, yet nervous syphilis will appear later. The syphilitic poison acts on the nervous system by causing gummata, endarteritis, and by slowly interfering with nutrition of nervous tissue. The last form produces parasyphilitic lesions. Syphilitic inflammation produces exudation, formation of connective tissue, and this may press on nerve fibers or cells and destroy them. Plugging of a cerebral artery cannot be repaired, but ends in degeneration, which antisyphilitic treatment cannot repair. Cerebral hemorrhage will not be benefited by it. Inflammatory lesions may be benefited by it. In tabes a course of antisyphilitic treatment will be of benefit if it has not already been given. Salvarsan is not in all respects superior to mercury. It is very valuable in some cases. But as yet it does not destroy all spirochetes in every case.—*Medical Record, February 18, 1911.*

Satisfactory reduction is the most important step in the treatment of Colles' fracture. Once reduced the fragments have little tendency to displacement; therefore, prolonged immobilization without frequent movement of the wrist will result in a stiff joint, for which the nature of the injury does not provide excuse.—*American Journal of Surgery.*

EHRLICH'S "606"—(SALVARSAN): ITS INDICATIONS AND CONTRAINDICATIONS*

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In endeavoring to draw conclusion regarding the therapeutic value of Ehrlich's "606," it is fair to recall for the moment our knowledge of mercury, for four cen turies or more the sheet-anchor in syphilis

Most of us having time and again been confronted with syphilitic conditions in which the mercurials were of no avail, and, regretfully, having not infrequently observed the spastic gaits of the unfortunates we "cured" years ago, it is but natural that we should reach with avidity to a remedy that at last gives promise of reaching the goal of our endeavors,—the curing of our syphilitic patients.

To what extent this ideal will be realized, only time and much further study will tell; but that our hopes and labors for the solution of one of the problems of the ages will shortly be realized to a large degree we firmly believe.

Through Schaudinn's and Wassermann's immortal discoveries we realize how puerile were our efforts of the past days; how inefficient and even harmful was the "three or four pills a day" method; how, in the light of recent developments, we succeeded only in cultivating a mercury-fast organism, thereby eliminating forever, perhaps, the possibility of a cure. How inadequate most of our ingestions, inunctions, and injections have been we read from our daily laboratory reports, and those of us who were brave enough to salivate until the teeth loosened have every reason to be proud of their work instead of being pained by the invectives of their patients,—they cured where others failed.

The great army of physical, mental, and moral defectives, the almshouses, insane asylums, and schools for backward children, filled with syphilitics and their offspring, bring as little credit to our present day civilization as they did centuries ago.

To believe now that we are at the dawn of a new era in the battle against the ravages of this loathsome disease is to believe that a new epoch of progress has commenced for the whole human species. Whatever end-results this new line of treatment will bring, its successes are already sufficient to glorify forever the master whose work we are honoring this evening.

That mercury is a specific is as true today as it ever was, and its effects also have at times bordered on the miraculous. Its value is not to be discredited for a moment, but its true value was not realized until the advent of the Wassermann and other sero-reactions. But with the best of treatment as it has been available in the past, the annual quota of cases of tertiary, para-, and hereditary syphilis has continued.

Potassium iodide we now know to have no specific action at all, having no effect whatever on the Wassermann reaction; but where specific infiltrate and deposit is to be removed its virtue is undeniable.

Our optimistic view of the future is founded on Ehrlich's work in which he

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brought to a successful application his greatest discovery, namely, that a specific chemical affinity exists between specific living cells and specific chemical substances. Having demonstrated the selective action of many different substances for different tissues of the body, principally by methods of staining, he logically followed up his results by seeking a specific curative drug for a specific parasite. With trypan-red he and Weinberg succeeded in curing with one injection every mouse experimentally infected with the trypanosome, causing a complete sterilization by one dose. This was the first brilliant result in specific chemical therapeutics. However, by injecting trypan-red in doses slightly smaller than was necessary completely to destroy all trypanosomes, and by repeating the dose several times at short intervals, a strain of trypanosomes would be obtained on which the chemical had not the slightest effect in doses as large as could possibly be injected without danger to the host,—in other words, the trypanosomes had become dye-fast. On this fact hinges Ehrlich's endeavor to evolve a "therapia sterilisans magna," he believing that destruction of all parasites is necessary; for, if complete sterilization is not achieved, repeated doses are essential. As these soon lose their effect, the person or animal treated is then in a worse condition than before treatment was commenced.

Following his work on trypanosomes, he transferred his interest to diseases caused by spirilla: syphilis, yaws, relapsing fever, and chicken spirillosis; and dioxydiamidoarsenobenzol was the result. Hata found that this drug cured chicken spirillosis in a dose fifty-eight times smaller than the "dosis tolerata," or the largest dose that could be given with safety to the animal. One-seventh of the "dosis tolerata" was found to be sufficient to cure a rabbit infected with syphilis.

From the time that Iversen first used "606" with great success in human beings affected with relapsing fever, the literature concerning the drug has grown with such bounds that deductions as to its advantages and disadvantages in the question of syphilis can be made now with confidence.

That "606" is a specific of great value in syphilis is a question no longer, but we believe with Wolbarst that it would be as presumptuous to say it will cure every case of syphilis as it would be to say that quinine will cure every case of malaria. Like all other drugs, it has its limitations.

For the human being the "dosis tolerata" has not yet been determined. It appears, however, judging from the average doses borne by animals used experimentally, that it would be about 6 gms. The average adult dose given to-day is about .6 gm. for women and .8 gm. for men.

The arsenic of the compound is demonstrated in the urine and feces until the fourth to the tenth day after injection, according to the method of administration, about half the original dose of the metal being collected from the urine alone.

In surveying the results of others and our own with "606" it is seen that, without question, it is the most powerful antisyphilitic so far employed. In primary and secondary syphilis the initial lesions are found to be covering with epithelium in forty-eight hours and are free from infiltration from six days to two or three weeks. Macules and papules vanish in less than a week. Moist papules which have been present for months often disappear in as many days. Mucous patches are healed in from twelve to twenty-four hours. Ulcerating pustular syphilides are free from discharge in about three days and are often healed in ten days. Specific pharyngitis and angina disappear in a few days.

It is, however, in tertiary syphilis that the action of the drug is the most remark-

able. Gummata, ulcerations, periostitis, epileptiform attacks, pulmonary syphilis, jaundice, hereditary syphilis, visceral manifestations yield to its influence.

In parasyphilitic conditions the results have shown that here its indications are more limited in number. Tabes has been affected favorably only in the first stages; the same is true of general paresis. Cerebral syphilis promises to be a good field, but, as the nervous system is very sensitive to the drug, these cases should be treated with smaller doses and with much caution. In one reported case of syphilis coupled with phthisis, the lungs were not affected by the treatment, nor does it appear to have any effect on gonococci.

With reference to its probable effects in diseases of the eye the use of "606" has caused more concern, perhaps, than any other feature. Schanz having collected as many as one hundred cases of blindness resulting from the use of atoxyl, it is but natural that a remedy containing as much as thirty-four per cent., or two to three grains of metallic arsenic to the average dose, should cause some trepidation on the part of the administrator. However, it seems, since methyl alcohol is no longer employed in its preparation, that it is harmless to the eye, and now numbers of cases of eye affections have been treated without untoward results; viz., ulcers of cornea, iritis, keratitis, scleritis, choroido-retinitis. On the other hand, it appears to have no power to inhibit the progress of optic atrophy, and in one or two cases the progress of the blindness might have been hastened.

In one of Emmerich's cases with marked atheroma of the aorta a very rapid and irregular pulse bespoke of some danger for the patient.

The few deaths with which the drug has so far been connected were in patients suffering from severe grades of constitutional weakness, cachectic conditions, and advanced disease of the nervous system, as tabes or bulbar manifestations.

Although one case of acute necrosis of the kidney following the injection has been recently reported, the general opinion prevails that the new compound does not produce irritation of the kidneys. It is to be remembered, however, that as "606" is eliminated chiefly by the urine, markedly diseased kidneys may cause arsenic retention with the attending danger of arsenical poisoning. No such accidents have been reported, but Gaucher and Hallopeau have determined by experiments on dogs and guinea pigs that the phenomena most observed at autopsy after lethal doses had been administered corresponded to those of arsenic poisoning.

In mentioning briefly a few facts learned in our own experience in the treatment of twenty-three cases, we wish to say that, brief as it has been, we have felt more enthusiastic about it after each succeeding dose. Of these cases nine suffered from secondary and fourteen from tertiary manifestations. The doses ranged from .08 gm. in a child weighing about sixty pounds to 1 gm. in each of three adults, the usual dose being .6 gm. All were given the neutral intragluteal injection.

In one case a mild albuminuria cleared entirely three days after injection. Partial deafness in another case remains unaltered. An ulcer of the larynx was healed in a few days, but the aphonia improved but little on account of scarring of the vocal cord. One male who had the habit of picking at his nose was troubled for three days by a severe epistaxis, evidently due to the vasodilator action of the drug. A case of cerebral syphilis marked by frequent epileptiform attacks, apoplectiform attacks, and nervous weakness reacted favorably to the treatment; there has been but one convulsion since the injection. Up to the present time we have taken the advice of

the ophthalmologists and have refused the treatment to all patients with eye affections, on account of the problematical danger of resulting blindness. We are ready to modify this reserve, however, The above points are suggestive and bear out the conclusions of the observers of larger experiences:—that a mild specific albuminuria is no contraindication; that advanced nerve atrophy is unaffected; that the functions of destroyed organs cannot be restored; that a tendency to bleeding is a contraindication; and that cerebral syphilis offers a good field for clinical results.

Neisser advises the use of "606" in cases (a) where there is idiosyncrasy to mercury and in patients who are evidently mercury resistant; in cerebral, ocular, hereditary, ulcerative, and malignant syphilis in which immediate treatment is a matter of the greatest importance; (b) to remove toxic cachexias; (c) to remove symptoms dangerous from the contagious aspect.

Blaschko adds the cases in which recurrence occurs while mercury is being taken, constitutional syphilis not hitherto treated in primary or secondary stages; also states that in late secondary stages it should be used in connection with mercury and the iodides; and that in parasyphilitic conditions of the cardio-vascular and nervous systems it should be used only in the early stages.

Emmery further advises its use in malignant syphilis with syphilides that are deeply destructive or mutilating. In initial lesions he would combine its use with radical local treatment.

We believe that the above list of indications is a conservative one, and that sufferers of this class should not be denied the treatment.

With reference to the contraindications, it may be stated that they will become still more limited as we gain in experience with the use of the drug. Some conditions will most probably never be subjected to the treatment, as cases of marked kidney disease where elimination is poor, cases of advanced tabes, general paresis, bulbar paralysis, and other nervous affections; cases of idiosyncrasy to arsenic, and cases in which there is marked cardiac debility. Other conditions that remain as danger-signals are infantile congenital syphilis, arterio-sclerosis, angina pectoris, severe lung affections, previous attacks of hemiplegia, marked bradycardia, acute inflammations, cases in old men, aortic aneurysm, pregnancy on account of the danger of abortion.

Though so much depends upon the constitution of the patient in general, it seems safe to administer the remedy whenever one of these or other self-evident contraindications do not exist, as the drug does not appear to be poisonous *per se*; yet we would earnestly warn against the indiscriminate use of the drug and advise that all patients with whom its use is being considered be carefully examined for any contraindications; also especially examined as regards the verification of the presence of active syphilis by the Wassermann reaction, which phase of the question, as well as the methods of administration, will be taken up by those to follow on the program.

57 West Fort St.

The next Annual Meeting of the Michigan State Medical Society will be held in Detroit September 27-28, 1911

DISEASES OF THE THYROID GLAND*

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Some interesting facts in regard to the thyroid gland have been discovered in the last few years. There are still many unexplained things about this mysterious gland. Our knowledge is not complete enough to account for all of the phenomena that may occur with certain changes that take place in the thyroid gland. We know that it has an internal secretion capable of profoundly affecting the metabolism of the body. Of this there is no question, but just how is not clear. It is not plain whether it does it directly or indirectly through its action on other glands and organs. A complete theory has not been advanced. We know that if the thyroid gland is destroyed, fails to develop, or is totally removed, cretinism or myxedema will follow. We know that the feeding of thyroid gland will relieve this condition. We know that a changed condition in this thyroid secretion will cause a rapid pulse and protrusion of the eyes. This change may take place from a gland that may not be enlarged in size. The removal of half of this gland or the cutting off of its blood supply will cure some and relieve others. Lastly, we know that this condition may be followed eventually by myxedema. These facts are true clinically.

What knowledge we have of the function of the thyroid gland amounts to this. There are two active principles in the thyroid secretion. One is a nucleo-proteid, which experiments show will increase the action of the heart and raise the blood pressure. The other active principle, thyroid globulin, does not increase the heart's action. The iodine element in the thyroid has been carefully studied. Marine says that the normal colloid gland contains the most iodine and the cases of thyroidism or exophthalmic goiter the lowest amount of iodine. Just what significance this has is unknown. Iodine increases the opsonic index. It is pointed out that cretins and cases of myxedema have a very low resisting power against infection.

In exophthalmic goiter there is a hyperplasia of tissue. There is increased cell growth and activity, with a decrease in the iodine content. Histologically the cases of Graves' Disease have a great increase in the number of cells which pile up in the spaces, but this same picture is also shown in diseases not associated with Graves' Disease. Marine was able experimentally to produce the various grades from normal to hyperplasia of the thyroid by removal of a portion of the gland and reversion of type by the administration of iodine. Clinically we know that the administration of iodine to exophthalmic cases will make them worse, a point which has been made use of in diagnosis. Careless administration of iodine in simple goiters has been charged with converting the simple case into one of Graves' Disease.

If you will allow me to review the history of the disease of the thyroid, we will arrive

*Read before the Genesee County Medical Society October 25, 1910.

at the present conception of diseases of the thyroid gland.

It was not until the time of Billroth, Reverdin, and Kocker that surgeons had the boldness to operate for large goiters. The great blood supply of the thyroid gland had formerly discouraged attempts at the removal of these growths. But these men did their work so thoroughly that the entire gland was removed. In other words, they did a complete removal of the thyroid gland. Reverdin six months before Kocker, although Kocker is usually given the credit, described the peculiar symptoms that followed the total removals of goiterous glands. These symptoms were pallor, weakness and edema, without albumin in the urine. This was in 1883. Kocker in this year reported twenty-six cases of myxedema that had developed in his operative cases, and explained its occurrence as the results of injuries to the structures of the neck, and that chronic asphyxia was the cause of this occurrence. Kocker later gave the true explanation of surgical myxedema, that it was due to the total removal of the thyroid gland. Kocker states that man can live about seven years without a thyroid gland. Victor Horsley did a series of removal of the thyroid gland in monkeys and apes, and found the conditions to follow uniformly the same as in man. Victor Horsley then suggested the grafting of a sheep's thyroid, as Von Eiselberg had shown that the gland could be transplanted from the neck to other parts of the body in animals. Murray then suggested that an extract of the thyroid be given hypodermically. Howitz of Copenhagen found that the same results could be obtained by giving an extract by mouth. Kocker suggested transplanting the thyroid gland into bone, and two years ago reported several successful cases. Payr has suggested the spleen as the site of grafting. Kocker's method is the simpler, and successful cases by Muller and Eiselberg have been reported.

These unfortunate patients who had been operated on proved the identity of surgical myxedema with the spontaneous disease. Myxedema was thus proven to be due to the absence of the thyroid secretion. The cases of total congenital absence of the thyroid gland are extremely rare. The cases of infantile myxedema, or cretin, usually develop physically and mentally until the third to fifth years of life, when they cease to grow and remain stunted the rest of their life. Sir Wm. Gull, in 1874, in a paper before the Clinical Society of London, had noticed the similarity of myxedema and cretinism, and the condition is sometimes called by his name. Ord suggested the name of myxedema, as it implied what was then supposed to be the characteristic feature of the disease, because a chemical examination of the skin had shown an excess of mucin, a jelly-like substance. The difference between cretinism and myxedema was merely the age at which the disease developed. It is cretinism if it appears before the fifteenth year, and myxedema after that age. The cretin usually has a fair sized thyroid gland, and it may have a goiter, but the thyroid function is destroyed usually as the result of a fibrous process. Many of the little people in shows are cretins. I have seen half a dozen of these creatures that were between twenty and thirty that were absolutely helpless, and some are hopeless idiots. Kocker says that he knows of no case of total absence of the thyroid gland that has lived beyond the twenty-second year.

Incomplete myxedema is important to recognize, because they can now be successfully treated by thyroid extract. The symptoms of incomplete myxedema are susceptibility to cold, muscular pain and ache (commonly supposed to be rheuma-

tism), dry skin, thinning of the hair, slight edema, or bagging of the eyelids. While they gain in weight, they complain of loss of strength and are easily fatigued. Small dose of thyroid extract will cure these cases. Too much thyroid extract given to cases of myxedema may lead to exophthalmic goiter. There seems to be a more susceptible condition that may lead to hyperthyroidism. There is a case reported by Notthafft, where the symptoms of Graves' Disease followed the taking of one thousand thyroid tablets in a normal individual. On the other hand, the exophthalmic goiter may be finally changed by a chronic interstitial thyroiditis that will lead to destruction of the thyroid gland followed by myxedema. These two diseases give a sharply contrasted picture. In myxedema the skin is dry, in exophthalmic goiter it is moist. In the former there is mental depression, in the other excitability and restlessness. In myxedema the pulse is slow, in Graves' Disease it is rapid. The blood pressure is low, in the latter it is high. In the former the temperature is low, in the latter it is elevated.

It seems strange that a disease like that ot exophthalmic goiter, which may almost in some cases be diagnosed as you pass along the street, should have had its first clinical description but seventy-five years ago. Graves described three cases having rapid pulse, exophthalmus, and adds that the goiter is not as large as in ordinary goiter. Parry, by whose name the disease is also known, mentions eight cases in only one of which is mention made of exophthalmus. Basedow, a German, gave a good description of four cases and reviewed the literature. Two cases became pregnant, followed by improvement. One patient improved, and had no relapse for sixteen years, being pregnant about every eighteen months. From the time of Graves, Parry and Basedow to the time of Gull and Kocker, and even up to the last few years, the disease was considered of nervous origin, and many able papers were written to prove it a nervous disease.

In the beginning of the hyperthyroidism, as it is now called, the pulse is usually the first symptom to appear. This is usually called a nervous pulse. The patient has been under a nervous strain, a death in the family, or financial reverses, or overworked, and it is not until the exophthalmus appears that its true nature is recognized. It is well to suspect-hyperthyroidism in every case of rapid pulse that is not explainable by conditions of the blood or heart. The goiter is not always prominent, but the thyroid will be found to be soft, and the stethoscope applied over the thyroid gland may reveal a soft murmur systolic as to time. No single symptom should be relied upon for a diagnosis, but the triad of exophthalmus, rapid heart, and goiter leave no question of doubt. The tremor may be the first symptom for which the patient may consult a physician. This is a fine tremor of eight to twelve movements per second.

It is only in cases of doubt that the various minor symptoms are of service in making a diagnosis. The eye symptoms outside of the exophthalmus are three. Von Graefe's Sign is the inability of the upper eyelid to normally follow the eyeball when looking downward. The lid either lags behind or follows in a jerky manner. Stellwag's Sign is the retraction of the upper lid, with a decrease in winking. Moebius' Sign is due to the inability of the exophthalmic eyes to converge. The test is made by having the patient look at a distant object, and then suddenly tell him to look at the tip of your finger held close to the nose, when it will be found that only one eye is looking at the finger. No explanation has been offered for the exophthalmus in these cases.

It disappears after death, showing its cause as due to the blood vessels at the back of the eye. Dock mentions a case diagnosed as exophthalmic goiter by a professor of nervous diseases, where the cause was a tumor of the orbital cavity. The diarrhea of exophthalmic goiter is probably due to the increased intestinal secretion, similar to the sweating of the skin which may take place.

The treatment of the various diseases of the thyroid gland will come under the heads of simple goiter, myxedema, exophthalmus and tumors.

Simple goiter is curable by the use of iodine externally over the goiter and iodine or the iodides internally. Iodine externally may be made by painting the skin with the tincture over the enlarged thyroid gland. Uengti. hydrag. iodi rubri is a favorite prescription, using a piece the size of a pea, which is rubbed in. After the application is made, the neck is exposed to the sun's rays. Compound iodine ointment is another good application diluted one half with vaseline. As the skin is more easily irritated in some than others, if necessary reduce the strength of the application if the skin be tender.

Simple goiters are very amenable to treatment, but it is necessary to carefully examine the gland to determine if other conditions be present. Occasionally an adenoma or a cyst develops, and these cases are surgical, medication being of no use. If a goiter does not decrease in size under iodine, Gunn's treatment may be used. This treatment is to inject into the substance of the gland ninety drops of a five per cent. solution of carbolic acid, which should be prepared by boiling. The injections are made once a week, alternately injecting each lobe. This is highly recommended by Oschner, who was Gunn's assistant, and who says he has seen no ill effects from the injections in several hundred cases. If the urine becomes cloudy or dark, the injections are reduced in strength. Nodular enlargements of the thyroid and immense growths are surgical. I do not believe that the common practice of giving thyroid extract in simple goiter is right unless there be symptoms of myxedema, and the treatment by iodine should be given carefully, as there is danger of converting a simple goiter to one of hyperthyroidism. The symptoms of simple goiter are due entirely to the size of the goiter. If the goiter becomes adherent to the surrounding tissues it is malignant.

The treatment of myxedema is either the grafting of a thyroid gland to supply the deficiency or else the giving of the extract for months or even years. Children who are supposed to be suffering from rickets, who do not develop properly, should be suspected of cretinism. Cases of rheumatism may be cases of incomplete myxedema, and the symptoms of the latter disease may be found, which, correctly treated, will be cured by thyroid feeding. Cases of slight edema that have no albumin in the urine should also be examined for myxedema.

The treatment of Graves' Disease, the thyrotoxic cases, may be considered under two heads, medical and surgical. Probably a large porportion of these cases would be completely cured if they could have an entire change in their method of living. Rest is the important thing. The success of iodine in parenchymatous goiter has made it difficult to persuade physicians that it may have an injurious effect in exophthalmic goiter, but all men who have had large experience with this disease are all of the same opinion. Quinine hydrobromate given as recommended by Forscheimer has given good results in several cases in which I have seen it used. It is given in five grain doses three or four times a day. If there be no improvement

within forty-eight hours, one grain of ergotin is added to each dose. Some cases I believe receive benefit from thyrodectin. These are the only drugs that have seemed to me to be of any benefit. Rest is the most important factor, and this must be physical and mental. Thyroidectomy, or the removal of the larger lobe, has never appealed to me as an ideal treatment. It is not a complete operation, as but part of diseased gland can be removed, and it stands to reason that there will be a certain per cent. of failure, because not all of the diseased tissue is removed. I do believe that the tying off of the vessels, as done by Jacobson of Toledo, will be the popular operation of the future. This is a polar ligation of both superior thyroid vessels using two heavy silk ligatures or celluloid thread and placing them a quarter of an inch apart, the ligature not only cutting out the blood supply, but also blocking the lymphatics. Crile claims the results are due to nerve-block. Should these methods fail, thyroidectomy removing the larger lobe will be indicated.

SURGICAL SUGGESTIONS

From the American Journal of Surgery.

In the presence of subpectoral or parasternal suppuration be on the lookout for a mediastinal abscess.

For oozing from the brain surface, during intracranial operations, the application of thin bits of absorbent cotton, as suggested by Cushing, is excellent.

A rounded swelling situated over the insertion of the hamstrings on either side of the leg is apt to be an hygroma or ganglion derived from the tendon sheaths.

In "clean" surgical cases a rise of temperature to even no more than 99.5° or 100°, during convalescence after operation, always means something—it may be only serous retention.

A uniform enlargement of one buttock, developing spontaneously and not of subcutaneous origin, is probably due to a subgluteal lipoma. Here, too, however, a hydroma must be thought of.

Phlegmanous processes in the neck, especially suppuration in the deeper planes, cannot be too promptly evacuated,—they are often followed by mediastinal or pulmonary infection.

When operating upon or dressing suppurative lesions (especially those of pleura, pericardium, joint, etc.), it is a serious mistake to disregard aseptic technic. The danger of secondary infection must always be borne in mind.

A psoas abscess occasionally points in the outer part of the groin (i. e., close to the anterior spine of the ilium). When there is no evident spinal deformity to suggest the diagnosis the swelling is apt to be mistaken for a growth.

Chronic ulcers of the face situated in the area between lines drawn from the outer end of the eyebrow and the upper border of the ear above, and the angle of the mouth and the lobe of the ear below, are usually epitheliomata of the basal-celled variety, and they are comparatively non-malignant.

When an injury to the carpus is suspected, it is important to have skiagraphs of the lateral as well as of the sagittal view. The latter alone may fail to demonstrate a dislocation of one of the bones, and even a fracture may escape detection in it.

If pain on walking persist after a fracture of the os calcis, or, indeed, after an injury in which fracture may have been overlooked, determine with the X-ray whether there is a projecting fragment or a breaking down of the inferior arch of the bone, or both.

If a chronic localized osteo-periostitis, as shown by the X-ray, continues to give pain in spite of internal (specific) treatment, the bone should be explored. One is very apt to find a small collection of pus in the medulla of which the radiograph gives no indication.

STOMACH DISORDERS REQUIRING SURGICAL INTERVENTION. FROM THE VIEW-POINT OF AN INTERNIST*

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A new era of surgery commenced with Billroth's first successful resection of the stomach for cancer of the pylorus and with the introduction of Woelfler's gastroenterostomy. Since then the results of these operative methods have continued to improve, due to the better technique and to experience derived from both success and failure. Important in this connection also is the fact that the diagnosis of gastric disorders has become more accurate than ever before. Statistics on surgery of the stomach may be utilized only with great care, because the operative results of twenty years ago cannot be in any way contrasted with those of the last few years. Operations upon the stomach are performed by surgeons who are often as impulsive as they are competent. The results of a gastroenterostomy following a benign stenosis of the pylorus are so good that some surgeons are led to believe that *all* cases of indigestion which have resisted medicinal treatment require an exploratory incision. They forget that venous congestion of the gastric mucosa caused by a derangement of the heart, lung, liver and kidney will give severe digestive symptoms, and an exploratory incision without due deliberation may do more harm than good. Surgery is not a "cure-all" for stomach diseases, as some of our operators would lead us to believe.

During the past ten years the operation of gastroenterostomy has become almost a fad, and in some quarters the opinion seems to prevail that this radical operation is a panacea for each and every form of indigestion. That experience, however, has not warranted this extreme idea is emphasized in an article in the *American Journal of the Medical Sciences* for May, 1910, in which Deaver, while insisting that gastroenterostomy is, when properly indicated, one of the most valuable of surgical procedures, warns against its indiscriminate use, especially in cases of the various forms of gastric neuroses. There is no class of patients more anxious to undergo operations than the neurotic, especially when the neurasthenia has taken upon itself the symptoms of indigestion and abdominal pain or discomfort. There are many sad instances of men and women, often themselves members of the medical profession, who are traveling from one gastric surgeon to another, pleading with each to open the abdomen and so change the course of the alimentary tract, that their sufferings may be relieved. In such cases operation is, of course, to be condemned, and its results, as Deaver says, are nothing short of a catastrophe. This warning is thoroughly timely, and coming from a man with an established reputation as an abdominal surgeon, carries no small weight. Indiscriminate operation has done more harm to the advancement of stomach surgery than we realize. It is the internist who has to deal with the case after the surgeon has discharged the patient as cured. Some of these patients make sorry looking individuals, and yet we acquiesce without a word of warning and practically agree to

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this sacrifice to experimentation. How absurd to accept unchallenged the assertion that most of the stomach cases coming into the hands of the internist are the beginning of carcinoma and should have exploratory incision. When surgical intervention is rationally indicated, there is no class of cases in which success is as gratifying; but, taken as a whole, less than two per cent. of stomach cases require surgery. The most frequent condition that demands surgery is obstruction of the pylorus. In this condition gastric retention is extreme. In severe cases there is found in the morning in the fasting stomach *food* that has been taken the night before, and there may be as much as four quarts of food-stuff found in the stomach. The stomach endeavors to compensate for the pyloric obstruction by increased muscular effort. This brings about an hypertrophy of the organ which is soon followed by dilatation. Dilatation is almost invariably present where there is a stenosis of the pylorus.

Before operative treatment of the stomach is advised, a number of factors should be taken into consideration. The most important factors to be considered are the general condition of the patient, and the condition of the vascular system, both indicating his power of resistance. The age of the patient is important. Although it must be admitted that young people undergo a serious surgical ordeal with better success than older ones, no definite lines of age can be drawn. In grave cardiac affections, in diabetes and Bright's Disease, operations on the stomach are usually contraindicated.

The simplest operation of the stomach is gastrostomy. It is indicated in impermeable strictures of the esophagus, for the removal of foreign bodies situated so low down in the esophagus as to make their removal from above impossible, and for the removal of foreign bodies in the stomach.

In carcinomatous strictures of the esophagus or of the cardia, gastrostomy is a thankless operation, and should be undertaken only when the stenosed part is impassable even for fluids. In such cases the first step should be to administer small doses of morphin throughout the day, and to replace feeding by mouth by rectal alimentation for several days, as it is not an uncommon occurrence under this treatment for the stenosed passage to become fairly passable. The benefit derived from gastrostomy, undertaken for the relief of carcinoma, is very limited, as it consists only in the pro'ongation of a none too enviable life for a few weeks or months. I am, therefore, unable to support the opinion, held by some surgeons, that it is advisable to perform gastrostomy immediately after a diagnosis of esophageal or cardiac carcinoma.

A simple, uncomplicated gastric ulcer does not demand surgical intervention. Only in the event of complications and in the event of the ulcer defying *thorough* internal treatment, and impairing nutrition by interference with motility, should there be any question of surgical intervention. The fact should always be taken into consideration that in the present state of the science of diagnosis we can only have a suspicion as to the seat of the ulcer. We know that four-fifths of all gastric ulcers are situated at the lesser curvature on the posterior wall of the stomach—a surgically inaccessible place. Unless, therefore, there is a well-developed ulcer of the pylorus, which has been diagnosed by the presence of retention, it is impossible to make a safe prognosis of recovery or even of improvement through surgical intervention. In some cases, where there has been a diagnosis of ulcer of the stomach, the abdominal cavity having been

opened, the ulcer has not been found, or if found, adhesions or an unfavorable position of the ulcer rendered any operative measure futile.

William J. Mayo says that, "Nearly all the failures of surgery for ulcer of the stomach are to be found in the group of so-called clinical or medical ulcers because: (a) The ulcer is not found and many times its existence is problematic; (b) The condition is often confused with pyloric spasm, atonic dilatation, gastroptosis, gastric neuroses or other morbid non-surgical conditions; (c) Simple ulcer does not give rise to that mechanical interference with the progress of food which would introduce an operative indication." Internists owe a debt of gratitude to this surgeon who has had the courage to come out and plainly tell us that it is our duty as internists to bring about a recovery in simple and uncomplicated cases of gastric ulcer.

Munro, in a paper read before the Congress of Physicians and Surgeons in 1907, said, referring to the unsatisfactory results from gastroenterostomy in gastric ulcer, "It is wise to close the abdomen when there is no gross ulcer, no actual pyloric obstruction or other crippling lesion." He has learned from the observation of the results of many such cases that gastroenterostomy under those conditions is useless.

So far as surgery is available, no procedure but the removal of the ulcer by excision or gastroenterostomy is to be considered. Removal of the ulcer does not remove the cause nor the tendency to new-formation, nor does it improve motility nor reduce hyperacidity; but it does remove the dangers accompanying the ulcer, such as hemorrhage, perforation and malignant degeneration. Gastroenterostomy and favorable drainage protect the ulcer from irritation of the hyperacid gastric contents, and some ulcers which have defied every kind of therapy will sometimes heal or become latent after gastroenterostomy. Ulcer of the pylorus or duodenum can be cured by gastroenterostomy, but this operation will not cure ulcers in other parts of the stomach.

It is always necessary to pay special attention to the diet after stomach operations in order to achieve the most favorable results. It is certainly surprising to observe that a patient, compelled for years to live on milk, broth and soups, is allowed at once to partake of roast beef and potatoes. It is an overestimation of surgical effect to suppose that a stomach which has been seriously impaired for a number of years can suddenly develop normal function. It is irrational to allow such a patient to get out of bed after a couple of weeks and to discharge him as cured at the end of three weeks. After the operation a careful dietary should be instituted for weeks and even months if necessary. The surgeon should be assisted in the care of such convalescents by an internist trained for this purpose. This course, together with the simultaneous use of alkalies, constitutes the best method of avoiding the danger of new-formations, especially of ulcer of the jejunum, in which location an ulcer is apt to come as a sequela of gastroenterostomy.

One of the most frequent complications of gastric ulcer is hemorrhage. Acute hemorrhage is not a condition that lends itself to surgical treatment. Such hemorrhages can usually be stopped by internal treatment, but if this should fail, operative intervention is not likely to help. Less than five per cent. die of these hemorrhages without operation. By subjecting patients to operation, we expose them to further dangers to which they easily succumb; while without operation they have a better chance to recover. This view is shared by a large number of experienced surgeons. As a matter of fact, few cases of gastric hemorrhages have been lost when proper therapeutic measures were instituted. With

internal treatment Lenhartz reports 201 cases of gastric hemorrhage with a mortality of three per cent., Ewald 166 cases with a mortality of 4.8 per cent., and Wirsberg reports 320 cases with a mortality of 5.9 per cent. Robson, resorting to operative treatment in forty-five cases of acute hemorrhage, saved fifteen; without operation he would probably have saved forty. The ligation of the coronary arteries which supply the ulcer is not to be endorsed, because the results achieved without surgical intervention are better.

What is our position as to the treatment of ulcers, which, characterized by chronic oozing of blood, lead to grave anemia? If energetic internal treatment should not be successful, as can easily be observed by daily examination of the feces with the benzidin test for occult blood, operative treatment should be advised. Either resection of the ulcer or, where this is impossible, gastroenterostomy should be done. The latter operation frequently stops the hemorrhage, especially if the ulcer is situated at the pylorus. In the case of pyloric ulcer it is not the hemorrhage, but the stenosis which renders operation necessary. In cases which do not improve after a prolonged course of internal treatment, and where pyloric obstruction is not present, it is unwise to promise a recovery by a gastroenterostomy. Surgeons agree that good results in ulcer of the stomach by gastroenterostomy are obtained *only* when there is a pyloric obstruction. Gastroenterostomy does *not* give drainage and physiological *rest* when the pylorus is patulous. Cannon and others have shown that food and liquids pass through the pylorus even after gastroenterostomy has been performed. The artificial opening does not help matters so long as the pylorus is unobstructed.

Another dangerous complication of gas tric ulcer is perforation into the free abdominal cavity, followed by peritonitis or a subphrenic abscess. This complication requires surgical intervention, and the operation should take place within ten hours after perforation, when the mortality is about twenty-eight per cent. According to figures, the mortality rises to sixty-five per cent. if the operation is delayed more than twenty-four hours, and to eighty-seven per cent. after thirty-six hours; undertaken later, operation offers no hope. The operation may be very simple for perforation at the greater and lesser curvatures and at the anterior wall of the stomach. If the perforation has taken place at the posterior wall, the operation is most difficult and usually does not do any good. Statistics in perforation show such unfavorable results by internal treatment that it seems imperative to resort at once to surgery unless there are very important factors to contraindicate it.

Subphrenic abscess following perforation should likewise be operated upon as soon as possible.

The surgically most important complication of gastric ulcer is benign pyloric stenosis, with subsequent dilatation of the stomach. The diagnosis is dependent upon: the history pointing to ulcer; vomiting of large proportion of the food ingested on the previous day; decreased secretion of urine; the presence of food remnants in the morning before breakfast; the chemical findings—hyperacidity or hyperchlorhydria; the microscopic findings—sarcinæ in the gastric contents.

Benign pyloric stenosis may be occasioned by compression, tumors of the liver, of the gall bladder and of the pancreas, by adhesions, by true cicatricial constriction, and by spastic contraction of the pylorus. Unless there is a critical condition such as exhaustion, tetany or impending tetany, or uncontrollable vomiting, we should, after having arrived at the diagnosis of benign

pyloric stenosis, attempt to relieve the engorgement by rational nutrition, gruels and fluid diet, nourishing enemas, cataplasms, irrigations of the stomach and oil therapy by mouth. If this line of treatment proves successful, the daily secretion of urine increasing to the normal, the patient showing uninterrupted improvement from week to week, with no retention even after an increased dietary, operation is not indicated, because the case is one of gastric congestion caused by a spastic stenosis and not by a cicatricial condition. If all other symptoms improve but there are still food remnants early in the morning after enlarging the range of foods, the operation should not be delayed, particularly with patients who, from their position in life, are not able to continually confine their diet within the required limits. In cicatricial stenosis of the pylorus the results of gastroenterostomy are excellent.

Hypertrophic stenosis of the pylorus has been successfully operated upon in very young children. As experience in those cases accumulates, we find, however, internal treatment is often efficient and surgical intervention usually not required. An important point to remember in this connection is that we do not know how gastroenterostomy performed upon young children will regulate itself in advancing years.

In dilatation of the stomach resulting from atrophy of the muscular fibres when the pylorus functionates normally, operation is indicated only in exceptional cases. It should be regarded as indicated only after all internal therapy, such as irrigations of the stomach, diet, tonics, massage, electricity and hydropathic measures have proved to be complete failures. Congenital stenosis of the pylorus almost always responds to internal treatment, provided it be carefully followed. In rare cases only is it necessary to resort to surgery.

The differential diagnosis between atony and secondary dilatation following pyloric stenosis is frequently not easy. It depends upon the objective findings, and upon a history of ulcer manifestations. Gastric rigidity and pyloric tumor point to stenosis. If, in the absence of ulcer symptoms, a rational therapy relieves the dilatation, the latter was probably atonic. In regard to adhesions and perigastritis we are, unfortunately, able to make a diagnosis in only a very small percentage of cases. Perigastritis, unless there is a distinct disturbance of motility, is rarely sufficient reason for surgical intervention. When firm, immovable tumors can be palpated in the epigastrium and carcinoma can be excluded, the presence of adhesions or epigastric hernia may be surmised. Adhesions may or may not interfere with the motility of the stomach. Those not interfering with its motility may be wisely let alone, for we all know that severed adhesions are likely to reform. For adhesions interfering with the motility of the stomach fibrolysin by the hypodermic method may be tried, but should this fail such cases must be turned over to the surgeon.

In hour-glass stomach gastroanastomosis is the procedure to be recommended. The diagnosis of this condition is now easily made by the use of bismuth with the X-ray.

In gastroptosis, surgeons have attempted to establish normal conditions through ventrofixation, by shortening the gastrocolic and gastroduodenal ligaments and gathering the mesocolon. My experience has taught me to withhold my approval of these procedures, because I have seen so many cases in which such measures have created new troubles without removing the old. In my opinion gastroptosis should be treated altogether by mechanical, dietetic, physical and medicinal methods. The most rational method of treatment in cases where

the ptosis has caused a kink at the pylorus or duodenum seems to be gastroenterostomy.

Carcinoma of the stomach, when diagnosed early, should be operated upon at once. Even if the diagnosis be doubtful, no harm is done, in the hands of a good operator, by exploratory incision. Indiscriminate exploratory incision is apt to bring disrepute to surgeons and no calculable benefit to the patient.

Is it not surprising that among the alarmingly large number of gastric cancer cases we have only a few isolated cases of cure reported? The reason has been correctly stated that we resort to operation when it is too late, and, therefore, surgeons reiterate the great necessity for an early diagnosis of carcinoma. What is an early diagnosis? It is a diagnosis of carcinoma during the stage when the condition is still circumscribed and when metastasis has not taken place. At this time radical operation is possible. A diagnosis of cancer in a very early stage of its growth can rarely be made. I might cite a number of cases demonstrating we are far from being able to make a sure diagnosis, let alone an early diagnosis even with the aid of an exploratory laparotomy. It may happen, as I have personally seen, that operation is performed at a very early stage,—at the time of the first manifestations of the disease,—with no tumor palpable, and that at the operation metastases both small and large were found but no primary tumor. I have even had exploratory incision made in suspected cases of cancer of the stomach where no lesions were found, yet carcinoma with all its manifestations continued to develop and subsequently proved fatal to the patient. On the other hand, there may be an occasional case with a large and apparently inoperable tumor, and at autopsy it is discovered that there are no metastases and the tumor could have been removed without difficulty.

Findings which are supposed to be a safe guide for the early recognition of carcinoma are very misleading. Great importance is to be attached to the history, whether there was a diagnosis of gastric ulcer, gastritis, cholelithiasis, or whether the affection has developed insidiously. Loss of appetite, repugnance to food, eructation, vomiting, debility, decrease in weight are points to be considered. There should be repeated examinations of the entire body and a study of the gastric functions, including tests for the absence or deficiency of hydrochloric acid, presence of lactic acid and blood. The microscopic examination of the stomach contents should not be omitted. Especial attention should be paid to disturbed motility, to the presence of food remnants in the stomach, and the recognition of occult blood in the feces. I consider retention the most important symptom and the most important indication for immediate operation where there is the slightest suspicion of carcinoma. The examination of the contents of the stomach after a long-continued fluid diet is not sufficient. The gastric contents should be examined after the patient has partaken for one or two days of a diet difficult of digestion, containing such foods as apples, plums, currants, cherries and sausage. If after feeding the patient on such food, a gastric retention be found on examination of the stomach contents made before breakfast, interference with motility is certain.

The secretion of hydrochloric acid and pepsin is usually decreased as the carcinoma develops, and in an advanced stage of the disease is inhibited altogether, except in carcinoma developing from gastric ulcer, when even hyperacidity may exist. The presence or absence of hydrochloric acid is of value only in connection with all the other symptoms and findings. The presence of lactic acid is not a specific sign

for carcinoma. I have found lactic acid without any carcinoma being present, and, again, I have not infrequently missed it in the presence of carcinoma. There is no doubt that its presence distinctly points to carcinoma, but not invariably so. The presence of hydrochloric acid is indicative of the absence of lactic acid, as lactic acid is seldom present when there is hydrochloric acid.

Some surgeons have formulated a demand for an exploratory laparotomy in every case in which the diagnosis is in the least doubtful. One surgeon says in speaking of early diagnosis of cancer: "This cannot be done on the present state of our knowledge save by timely exploratory laparotomy. Other means at our command are wholly inadequate, and to depend on them further is needlessly to sacrifice many, I may say thousands, who might be easily saved." Just such assertions as these from prominent surgeons induce indiscriminate surgery. The number of cases we should have to submit to laparotomy to no purpose would be very large, were we to satisfy the demands of these surgeons and perform an immediate exploratory operation in all doubtful cases. Moreover, this is much easier said than done. Patients complain of comparatively little trouble which may be occasioned by an incipient carcinoma, or equally as well by a neurosis, gastritis, erosion, ulcer, gastroptosis, cholelithiasis or by disturbed gastric function originating in disorders of remote organs. When we recall that two-thirds of all chronic diseases of the stomach belong to the type of the neuroses or functional disorders, we can readily understand why the internist hesitates when the surgeon demands exploratory incision. Considering all the points of the examination, careful observation and in some cases rational internal treatment are required in order to form an opinion. The procedures necessary for making a positive diagnosis in some cases are beset with difficulties, because patients usually object to frequent and detailed examinations and for that reason may not return. If the ailment has a tendency to exacerbate, all the attempts to stimulate the appetite failing, if vomiting refuses to be controlled, and the body weight does not show an increase, suspicion may well concentrate upon carcinoma, and we are obliged to advise an exploratory laparotomy even if no tumor be palpable. If, on the other hand, there is an increase in the weight of one or two pounds every week, should the appetite reassert itself and the patient's appearance and sensation of well-being improve, if the unfavorable symptoms decrease, particularly the amount of hydrochloric acid increasing, we may in most cases exclude the diagnosis of carcinoma. With all possible precaution mistaken diagnosis cannot altogether be avoided.

It must further be admitted that while exploratory laparotomy is no longer a serious operation, it is not free from danger. If we advise exploratory laparotomy in the presence of slight manifestations, we may take it for granted that in the majority of cases patients will not submit, and if after such refusal a course of internal treatment be instituted and the patients recover, we shall subject ourselves to many unjust reproaches. An important point to remember is that upon examining an opened stomach, it may be very difficult for the surgeon to interpret correctly the traces of a possible old ulcer or other finding. What he may judge to be benign, frequently prove to be malignant, and what seems to him malignant may simply be benign.

Carcinoma at the fundus and body of the stomach generally manifests itself only at a time so late in its development that radical operation can offer little hope. Successful resection can only be hoped for in carcinoma of the pylorus and of the lesser

curvature, the latter encroaching upon the pylorus at an early stage. These cases constitute about fifty per cent. of gastric cancer. Where resection is possible it should always be done. The size of the tumor is no contraindication so long as the stomach is large.

An important question to consider is whether an operation is justified in cancer when there are metastases, but the tumor can still be removed; and whether in such a case gastroenterostomy should be the chosen operation. Though the results of gastroenterostomy in benign cases of pyloric stenosis are good, they are unfavorable in cancer, exceptional cases to the contrary notwithstanding. The average success with a gastroenterostomy in cancer is the prolongation of life for six months. Experience shows that resection gives better results. In cases with slight metastases resection should be given the preference if possible over gastroenterostomy. With the present improved technique it is possible to perform a complete resection in one to one and one-half hours.

Gastroenterostomy is only indicated in pyloric carcinoma with retention, where resection is no longer possible. If there is the slightest doubt as to the benign character of the pyloric stenosis, resection of the pylorus is indicated. The mortality for resection, according to statistics of various prominent surgeons, is between six and twenty-eight per cent., or an average of seventeen per cent. The average duration of life after a resection is sixteen to eighteen months. Mayo reports five cases alive and healthy for more than three years after operation. William J. Mayo, at the 1909 meeting of the American Gastro-Enterological Association, said regarding cancer of the stomach: "I think it was a great mistake when Koenig said that patients with cancer of the stomach who had a palpable tumor were incurable. We have one such patient who has survived a gastrectomy five years, and some others, three or four years, and we do not consider a movable tumor necessarily a contraindication to operation. Obstruction and a movable tumor, one or both indicate surgical consultation." I believe we all agree with Mayo in this.

If we exert ourselves to make an early diagnosis and make a proper selection of the cases for operation, we shall be able to include gastric carcinoma in the list of those affections in which better results can be achieved by operation than is at present the case. Fischer has recently declared that a special ferment, the product of cancerous tissue, probably breaks up the protein found in the stomach into monoamino and diamino acids. It is known that these end products of proteolysis can take place normally *only* in the intestine. Fischer's observation has been made use of in endeavoring to make an early diagnosis of cancer of the stomach. It is too early to decide the value of the test, for we must know accurately how far advanced a cancer is developed before it furnishes this ferment. Let us hope that these findings will help in making an early diagnosis, at that stage when surgical intervention is of avail.

It has been found that extracts of malignant tumors have marked hemolytic properties due to the presence of lysins. If the hemolysins be found in the blood serum it is suggestive of cancer, providing these are not found in the blood of the normal individual or in the blood of those affected with other diseases. We find the hemolysins present in fifty per cent. of cancer cases, but unfortunately they are also found in certain other diseases, and for this reason their presence cannot be entirely depended upon for diagnosis of cancer. Elsberg, Neuhof and Geist (*American Journal Medical Sciences*, February, 1910) have re-

cently made use of the hemolytic action of the blood serum of cancerous patients by a new method. They inject subcutaneously into the forearm of the suspected cancer patient five minims of a suspension of twenty per cent. washed human blood corpuscles in salt solution. The hemolysins in the blood serum of the cancer patient attack the corpuscles so that a reaction shows in two to eight hours. The color varies from brownish red to a bluish tinge. The reaction was found to be positive in 89.9 per cent. of cancer cases. We have in these researches results that may lead us to a method which will enable us to make an early positive diagnosis of cancer of the stomach.

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Discussion

Dr. C. B. Burr, Flint.—It is perfectly true, as Dr. Aaron has pointed out, that neurotic patients are often submitted to operations which might have been escaped, and the operative furor is by no means confined to the surgeon. Frequently the patient himself acquires an appetite for operation, which if fed by the physician leads to the consequences which Dr. Aaron has indicated. In cases of feeble motility, deficient innervation, the direct consequences of depression, there is oftentimes the disposition on the part of both physician and patient to adopt surgical measures for the relief of what seems to demand that sort of interference. It is a gratifying fact that with the wider view, broader comprehension on the part of the neurologist, the psychiatrist and the surgeon are getting nearer together in treating these conditions. This will inure very much to the benefit of patients. The paper of Dr. Aaron has been of very great interest.

Dr. H. M. Rich, Detroit.—Dr. Aaron referred very briefly to the condition of congenital pyloric stenosis in small children. It seems to me in connection with this there is always to be mentioned that there are two kinds, one of which is a true hypertrophy and the other is a spastic condition. It is always important that a diagnosis be made as early as possible, because in the treatment of hypertrophic stenosis an operation seems to be the only thing that will cure those cases, and it has been very successful when undertaken early. I think in last week's *Boston Medical Journal* Dr. Scudder reported three more cases. Some of the cases are now seven or eight years old, and have gotten on very well; in fact, metabolism experiments have been carried on in some of those children, and they have been normal apparently in every respect. Persistent vomiting, especially of a periodic and forcible character under four weeks of age, or possibly under six weeks of age, should always be regarded with great suspicion, and if possible a diagnosis made at once.

Dr. Benj. A. Shepard, Plainwell.—The last few decades have been gratifying because they have shown a tendency on the part of the medical man to base his opinions and his work upon physiological and pathological bases. To-day so much work is being done in toxines, anti-toxines, opsonic work, with its negative and positive phases, and while the therapy of the gastro-enterologist is getting down to a physiological basis, and perhaps in advance of other work along that line, yet there is a chance for improvement there. Weinland has described an anti-pepsin found in the mucosa of the stomach which is believed to prevent autolysis; whether it is what we may call a "negative phase" of this substance or a decreased alkalinity of the blood, it is a question of metabolism and nutrition. It seems to me that the question of healing ulcers is one entirely out of the zone of the surgeon. We have ulcers in other parts of the body, and we know that we must have them in the intestinal tract. In case of gastric ulcer, when we figure out the condition of our patient, we often find him in an anemic condition, and yet without hemorrhage. Ulcer in such cases is a result more than it is a cause of the condition. When we get a condition of that kind it is not a surgical case; surgical procedure will if anything aggravate it.

My work along this line has been very gratifying by the use of egg albumen. Holt reports good results from the use of horse serum. Instead of following surgical means we want to push our nutrition. We cannot always do it by feeding everything, but by a rational course of nutrition we will bring our patient up to the standard where he can supply the anti-pepsin, if that is what we want to call it. We cannot conscientiously jump to certain conclusions the first thing when we get a case of ulcer.

I thoroughly agree with the Doctor in what he said, and if we will make a thorough and more physiological study of our ulcers, and of physiological processes, we will have our therapy on a more rational basis.

Dr. Wm. E. Blodgett, Detroit.—In regard to the relation of posture to gastric ptosis, dilation and enteroptosis, retention o food, morbid decomposition and absorption, I saw with Dr. Peterson, of Ann Arbor, a case of a woman physician who had had chronic arthritis for a number of years, and was operated on by Dr. Peterson for an independent uterine condition. The joints, which had been stiff for many months, in a few days became mobile and painless. This remarkable change was probably due to the thorough emptying of the alimentary tract in preparation for the anesthetic, to the restricted post-operative dietary, and to the dorsal decubitus, which would favor speedy evacuation of the stomach. Soon afterwards the joint stiffness returned. There have been quite a number of such post-anesthetic cases reported in which a temporary relief of joint symptoms has occurred. I think we may suppose that care of the stomach and intestines can improve some joint conditions where the origin of the joint condition is not the tonsils, or any other definite and discoverable source. One simple way by which a ptosed stomach is helped is by improvement of general body posture, and I should like to hear Dr. Aaron speak on the subject of the postural prophylaxis and relief of enteroptosis. Improvement of the round shouldered posture, which favors enteroptosis, sometimes improves a toxic arthritis, as well as nerve and other manifestations of general intoxication.

Dr. Charles W. Hitchcock, Detroit.—Very often mental states may have an influence on digestive functions. Unnatural attacks of depression and persistent attacks of excitement will produce in themselves the most profound alterations in the digestive functions, and this sometimes the surgeon will overlook. I have had patients complain more acutely of their digestive derangement than of their mental state, where it has been proven that it was the mental depression itself which produced the profound alteration of the digestive function to which the patient's attention was chiefly attracted.

Dr. J. E. Davis, Detroit.—It seems to me the point should be emphasized that it is in the class of functional diseases that the greatest care should be exercised in referring a case or cases for surgical treatment. We know that probably 66⅔ per cent. of stomach diseases are functional in character, and these would not be helped by surgical treatment. The study of the functional diseases is attended with difficulties when, as has been said, we have a patient clamoring for an operation, and the case is probably a long standing one that has resisted all manner of treatment yet applied. We should take a firm position and refuse operation when we have a distinctly functional case.

Dr. Johann Flinterman, Detroit.—The paper of Dr. Aaron is very important. I remember a case I saw some time ago, a man about sixty-three years old, who had all the symptoms of stenosis caused by malignant tumor, carcinoma. The stomach was dilated, but the very peculiar feature in this case was that this man had erratic chills, followed by a very high temperature, and by symptoms of mental excitement, and he became unmanageable. They could not keep him in bed, but as soon as the temperature dropped these symptoms would immediately stop. Careful examination of the case showed that the man was subject to endocarditis, and for some reasons an operation was declined, but the patient insisted upon an operation. He had not had any chill for several weeks. The heart did not make any serious trouble, and finally we agreed to perform an operation for the patient. We found stenosis of the pylorus. Immediately after the operation the man had serious chills again, and he died under acute symptoms of pulmonary edema. We had a post-mortem examination, and found that this patient had endocarditis. On one of the mitral valves was a distinct polypus, but the condition was not due to a malignant tumor. It was found to be of a benign nature. In this case, of course, operative measures were absolutely out of place, but we submitted to the patient's wishes. Now with a congenital pylorus due to organic degeneration, and at the same time of a spastic nature, the diagnosis is very often made in the beginning, when the case gives medical difficulty.

There was another case of a baby under the care of a specialist. The symptoms did not in any way improve, and a diagnosis of congenital pyloric stenosis was made. After examination was made, a wet nurse was employed, and everything was all right. It was nothing worse than a neurosis. This child vomits every time it boards a car. The mother is the same, and the father suffers from gastric disturbance. Every time he has some business or family trouble he has this nervous vomiting. In a great many cases we often do not know what is really the trouble. We do not go into the whole history of the case.

GALVANISM IN GYNECOLOGY*

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There is, perhaps, no therapeutic measure that will produce a larger percentage of satisfactory results than will the scientific use of galvanism produce in the various diseases to which the female pelvic organs are subject; and there is probably no measure of equal value given so little prominence in text-books, general medical literature and medical college instruction. Because of this neglect there is probably no measure of equal worth so little used by the members of the medical profession, whether general practitioners or specialists. These facts are the reasons for the preparation of this paper. They are also my excuse for wasting a moment of the time of some of you in stating a few rather elementary details.

First, I wish to call your attention to the fact that the two poles of a galvanic (or constant, or direct) current are diametrically opposite in most of their properties. For instance, the positive pole forms acids; the negative alkalies. The positive stops hemorrhage; the negative increases hemorrhage. The positive is sedative in action; the negative produces hypersensitiveness. The positive contracts and hardens tissue; the negative liquefies and softens tissue; and, perhaps most important of all, the positive pole is strongly germicidal, while the negative produces in its immediate vicinity a very good culture medium; and also, the positive is a vasoconstrictor, the negative a vaso-dilator.

These facts, taken in connection with pathological conditions, indicate the selection of the proper working pole.

Most pelvic diseases are primarily inflammatory, that is, the organ is tender, swollen by deposits of exudate, oversupplied with dilated and engorged blood vessels, with its mucous surfaces discharging their characteristic product and perhaps with points or areas of ulceration. All these conditions yield promptly to positive galvanism, scientifically applied. The apparatus required is simple and comparatively inexpensive. A good wall plate is desirable. A first-class milliampere meter is indispensable. For intrauterine applications I use electrodes of pure metal, four kinds in all, viz., silver, copper, zinc and iron. These are shaped to the proper uterine curve, the ends being bluntly rounded, and the tip, about five inches long, is screwed into an eight inch staff of indifferent metal, and this staff is covered with a muff of rubber and has a hole in the end for the insertion of the cord plug.

For the external electrode, I use a plate of thin perforated copper, to which a binding post is firmly soldered; size of plate five and one-half by seven inches. The external surface of the plate is covered with electrician's rubber tissue, about 1-32 inch in thickness, and the inner surface is covered with heavy felt. The edges of the rubber and felt are sewed together, enclosing the copper plate. I also use pads made of many thicknesses of gauze, folded and quilted together, from one-third to one-half inch in thickness, and a little larger than the external elec-

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trode. These pads and the electrode are thoroughly wet before using, and one or more pads used between the electrode and the person, the number used depending on the current amperage. The stronger the current, the more pads. These pads are used to prevent burning or irritation of the skin. Of course everything is kept thoroughly sterilized.

In my opinion, the curative powers of positive galvanization, in the class of cases in which its use is indicated, is due to its electro-tonic and sedative action on muscular tissue and nerve filaments, its germicidal action, and especially to the formation of extremely active astringents throughout the entire extent of the diseased tissue by metallic cataphoresis. When using one of the baser metals, as copper, for the anode the current detaches infinitesimally small particles of the metal, and they, being electro positive, are driven from the anode and drawn by the cathode toward the latter. These copper particles are in the nascent state, and hence tend to enter into chemical combinations with tremendous energy. All the soft tissues of the human body are permeated by sodium chloride in solution. In the chemical reaction that takes place the copper replaces the sodium, and there is formed the chloride of copper. The older writers say the double salt, the oxychloride of copper is formed, the oxygen being derived from the water of the tissues. The more recent electro-therapeutists deny the double salt theory, and maintain that we have formed only the binary compound, and I think they sustain their position with scientific logic. The limits of this paper forbid a discussion of the subject. All agree that an active, tonic astringent is formed in the tissues, most abundant in the immediate vicinity of the anode, and extending to any desired distance toward the cathode, the extent depending on the amperage and time of current flow. If you desire visible evidence of this metallic cataphoresis, try this simple experiment, as many, including myself, have done. Insert a copper anode four or five inches into a thick piece of beef muscle; on the outside place a large cathode, pass a constant current at 50 milliamperes for ten minutes. On cutting longitudinally through the track of the anode you will be able to trace the deposit of copper chloride for a considerable distance, probably an inch and a half or more, by its characteristic green color. The chlorides of silver, iron and zinc are all astringents, and all may be made caustic or escharotic by using sufficient amperage. I use the copper electrodes most frequently, probably more than all the others combined. I think the iron is the best hemostatic, zinc the best escharotic, in the few cases where that is desired; silver seems to penetrate the tissues most deeply, and copper is the best germicide. A platinum electrode is but slightly decomposed by the current, yet a platinum anode current is quite strongly bactericidal, but the germ-destroying power is eight times as great if a copper anode is used.

For many years I have treated various forms of pelvic diseases of women with galvanism, with vastly more satisfactory results than I have ever secured by other methods. The reason for this is very simple. We can send our remedy to every part of the diseased tissue, instead of applying it to some surface more or less remote from the real seat of trouble. Nor is our therapy confined to the metallic chlorides. By cataphoresis any remedy consisting of a single element may easily be made to permeate the selected tissue by applying it, or some compound of which it is an element, to the working electrode, selecting the polarity of that electrode with reference to the chemical affinity of the element. For instance, the selected remedy

is iodin. Iodin is electro-negative, that is, it has a strong affinity for the positive pole. Then if we place iodide of potassium on the negative pole, used as the active electrode, the compound will be decomposed by electrolysis, the potassium, which is electro-positive, will remain at the negative pole, while the iodin ions will be driven and drawn toward the positive pole, permeating the tissues that lie between the two. If the selected remedy is electro-positive, of course the anode would be used as the active pole.

In giving an intrauterine treatment, I place the pad electrode either on the abdomen or beneath the sacrum, the patient being in lithotomy position, insert speculum, mop cervix clean, with an antiseptic if the negative pole is to be the active one, insert as large an electrode of the selected metal as will pass with ease. If number 16 F. will not pass, I dilate with the cathode until it will. If there is tenacious mucus, that is liquefied by the cathode before using the anode. Dilatation and clearing away the secretions can usually be accomplished in from three to five minutes, with from twenty-five to forty milliamperes. Then the current is turned off, reversed without withdrawing the electrode, and a positive current, from 25 to 150 milliamperes, used from five to eight minutes, usually five. In an ordinary case of endometritis the usual current strength required is from 25 to 40 milliamperes. For severe menorrhagia, I use from 40 to 150 milliamperes. The latter amperage may be somewhat escharotic and is seldom required. As a finale, still without removing the electrode, I turn on a faradic current for four or five minutes, for its sedative effect, and also to stimulate muscular tone, using a coil of 4500 feet of fine wire. When using the anode the metal tends to adhere strongly to the mucous membrane. This is avoided by frequently rotating the electrode or by withdrawing it a little and reinserting it. The electrode should be passed in until the tip touches the fundus and then withdrawn slightly, so that there is the merest contact, as the electric action is strongest at the end, and if held firmly against the fundus it might cauterize.

Dysmenorrhea is usually the result of more or less complete stenosis of some part of the uterine canal, and the condition will yield, in nearly every case, to a few thorough dilatations with the cathode. Begin with the largest electrode that will pass easily. Use about 25 m. a. In a minute or two a larger size can be passed, and in five to ten minutes complete dilatation will be secured. Close with five minutes of faradism.

Intrauterine treatments may be repeated every four to six days.

In ovarian inflammations and neuralgias, if contact can be easily made from the vagina, cover the electrode with a rather thick layer of gauze or cotton, wet thoroughly, and treat without entering uterus Use anode.

My experience with fibroids has not been extensive, including but six cases, none of which extended above the pelvic brim. Results have been satisfactory in every case, that is, a symptomatic cure has been secured, all pain, discomfort and hemorrhage disappearing. The tumors diminished in size in varying degrees, from entire disappearance in one case to a shrinkage of from one-half to one-third the former volume in the others. I have, in these cases, used the method already described. Positive electrode in uterus. Heavy pads usually under sacrum, and a current of from 40 to 100 m. a.

I think the consensus of modern opinion is that the benefit secured in these cases is due to the astringent action of metallic cataphoresis, and not, as Apostoli taught, to the escharotic action of the anode on the

uterine mucosa with a current up to 250 m. a.

I would advocate this treatment for fibroids only in selected cases.

Neiswanger says: "There is only one excuse for curetting a uterus; viz., when there is something to take away, e. g., fungoid growths or detritus after miscarriage." Curetting can not destroy the infection which accompanies and usually causes endometritis and metritis. Many neuclei must be left to reinfect the endometrium. In the cases in which currettage is necessary, galvanism can be used most advantageously as an after-treatment.

The positive cupric cataphoresis by its germicidal properties will destroy infection, and by its astringent and tonic action will cause the absorption of inflammatory products and effect a cure of the condition in a period of time that will prove a most gratifying surprise to those who have been accustomed to rely on other methods of treating pelvic diseases.

SOME OF THE NEWER METHODS FOR THE DETECTION OF TUBERCLE BACILLI, WITH ESPECIAL REFERENCE TO THE SO-CALLED "ANTIFORMIN" METHOD*

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It is common knowledge and experience that many classes of material (sputum, urine, pus, tissue, milk, etc.) which appear clinically tuberculous fail to disclose bacilli, even after repeated and careful examination by one of the standard methods: e. g., the Ziehl Nielson method. It consequently follows that frequently the skill of the laboratory worker is questioned, laboratory diagnostic methods made light of, or, with imperfect knowledge, processes of a tuberculous nature are permitted to progress beyond the curative stage before radical treatment is instituted.

Within the past few years, better diagnoses have been returned as the result of laboratories being general where cultural methods and animal inoculation have been possible. And although from these methods knowledge of the greatest worth has been obtained, yet the loss of time to the clinician incident to laboratory cultures or animal inoculation has been a factor seriously detrimental to clinician and patient.

Some few years ago, so-called "digestion" methods were introduced as a preparative step in the technique for the detection and isolation of acid fast bacteria. The specimens were later stained in the usual way. For the purpose of dissolving or disintegrating thickly massed sputum with entangled bacilli, or to more readily get at the stainable part of feces, tissue bits, pus and the like, strong solutions of the caustic alkalies were used. Of these, solutions of potassium and sodium hydrate were most generally used, although occasionally solutions containing a chlorine compound were tried. It was universally found that the "digestion," so called, of mucus or albuminoid material by these measures resulted in the readier staining of bacilli, that were missed by the ordinary methods. After thick, lumpy sputum had been mixed intimately with such solutions as ten to fifty per cent. of potassium hydroxide, the

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bacilli were generally freed, could be separated by centrifugation, and readily stained by the ordinary methods. There were, however, certain objections to the crude "digestion" methods, in spite of the fact that their use marked distinct advance in laboratory technique. Very often the caustic alkaline solution did not dissolve completely the material holding the bacilli, or, if these solutions did work, the bacilli together with co-existing organisms (as staphylococci, pneumococci, colon bacilli, etc.) were destroyed. This did not, of course, prove universally true.

About two years since, Uhlenhuth and Xylander reported successful experimentation with a comparatively new "digestant." This digestant was completely, or with slight variation, a compound that had for some years been used in the arts and crafts. Tornell and others had discovered that certain strengths of liq. sod. chlorinatæ and caustic soda (equal parts of a fifteen per cent. solution of the last to equal parts of the first) furnished a powerful disinfectant and cleanser for fermenting vats in breweries. They called this compound "antiformin" and patented it under that name for commercial use.

Uhlenhuth and Xylander, Seeman, Thilenuis, Hune, Hammeral, Rau, Paterson and others, experimenting, first, with commercial antiformin and later with simple modifications of the same, reported the great superiority of this "digestant" method over others that had preceded it, particularly the digestion with simple solutions of the caustic alkalies.

Antiformin appeared to have the following advantages:

1. It furnished a cheap, readily prepared, and stable digestant.

2. This digestant, as the result of its oxydizing power, readily dissolved mucoid or albuminoid material, permitting free access to bacilli that might be present in the interior of suspected material.

3. Antiformin solutions of regulated strength appeared to be capable of destroying organisms, secondarily infecting material (bacilli, not acid fast, streptococci, staphylococci, diplococci, etc.), while not injuring the acid fast organisms (tubercle b., smegma b., timothy b., etc.).

4. Antiformin-treated material, as the result of having all organisms not acid fast destroyed, could—provided the solutions of antiformin were not too destructive—be used, without further preparation for cultural studies or animal inoculation.

5. With the powerful solvent properties of antiformin solutions, it was possible to directly stain or make cultures of a much larger variety of materials than could be done by direct simple staining, or staining after the use of such digestants as simple caustic alkali solutions. Feces, pus, urinary sediments, blood, milk and solid organs were now available for direct examination, microscopically, or for the purpose of making cultures or inoculating animals.

In the short time available for the reading of this paper, it is impossible for us to go into minute details respecting their or other's experience with antiformin. Some of the points not mentioned will be touched upon in the discussion. For the purpose of enlightening those who have had little or no experience with this really remarkable and very simple method of laboratory technique, the procedures used in the writer's laboratory will be outlined.

1. *The Preparation of Antiformin:*

There are many formulæ suggested. That mentioned by Baldwin and Smith, of the Saranac Laboratory, is perhaps the simplest. These workers take equal parts of sodium hypochlorite (javelle water) and a fifteen per cent. watery solution of sodium hydrate. These are intimately mixed at room temperature. Very fair results may

be obtained by the use of this mixture in thirty per cent. strength. At this strength, while good solvent power is obtained, the destructive effect on the acid fast organisms is not such as to kill them and prevent later direct culture. In the writer's laboratory for some months past we have made use of antiformin made according to the following formula:

A.—Calcium chlorid....100 parts
Aq. dest.....100 "
B.—Sodium Carbonat..125 "
Aq. dest.....300 "

These solutions to be intimately mixed and the following added:

C.—Sodium hydrate.. .. 30 parts
Water..... 60 "

Filter. Use the end solution in from twenty per cent. to thirty per cent. strength.

This solution is generally sufficient as a solvent, while at the same time it leaves the acid fast bacilli viable.

On account of the ease of preparation, it will probably be more convenient to use the solution suggested by the workers at Saranac. With care that solution is amply able to dissolve mucus and at the same time keep bacteria intact for cultural study.

It should be mentioned that experience with the antiformin method results in the frequent modification of the strengths of solution used according to the material submitted. Dense, solid organs, or thick nummular sputum require strong solutions of antiformin to free the bacilli in their midst. Also, one may vary the strength of solution, accordingly as he desires to make simple stain preparations or wishes to obtain a viable bacillus for cultural study or animal experimentation.

2. *The Action of Antiformin:*

The various formulæ presented exhibit one constant component, namely, a chlorine radicle with the production of strong oxydation of albuminoid bodies. This oxydation results in rapid solution of mucoid media. This same oxydizing power is also germicidal and germilytic to other than acid fast organisms. Streptococci, staphylococci, pneumococci, colon bacilli and other non-acid fast bacteria are destroyed in a few minutes. Various media, as component parts of sputum, feces, pus, urinary sediments and solid organs, fresh or hardened, are likewise rendered homogeneous. There are different theories accounting for the comparative immunity enjoyed by the acid fast organisms, particularly tubercle bacilli. The most plausible suggestion is that the fatty capsule present in acid fast organisms acts as a coating which renders the organism impervious to the dissolving action of the antiformin. This protection renders the organism stainable and often viable after the material has been antiformin treated.

3. *The Technique:*

This is very simple. In the writer's laboratory the following is used: 10 cc. of sputum, with the same amount of a thirty per cent. solution of antiformin, are mixed in small beakers. The mixture is well shaken, until the material becomes almost homogeneous. In well-prepared antiformin, this takes place in a few minutes. The mixture is then left for about a half-hour. The mixture can be left from three to six hours without any perceptible change in the staining qualities of tubercle bacilli. After a half-hour, when the fluid becomes transparent or opaque (but homogeneous), 10 cc. of alcohol or methylalcohol are added. The mixture is then well shaken, and is then put into centrifuge tubes and left at moderate speed for a half-hour. It is a good plan to see if the digestion of the mucoid portion is complete before putting in the alcohol. If it is not complete, one can readily lift mucoid strings to the side of the beaker with a glass rod. The alcohol lessens the specific gravity of the mixture and allows the heavier bacilli to precipitate to

the bottom of the beaker or the centrifuge tube. After the centrifugalization, the supernatent liquid is decanted, and some of the sediment is smeared on cover slips or on glass slides. The dried smears are stained by the ordinary Ziehl-Nielson method.

Comparing the material prepared in this way with material stained without preparation according to the old method, one can make out striking differences. In bacillus-containing media, with the ordinary method one sees in a given field from one to three bacilli. In the media treated with antiformin, one makes out very readily in a field from twenty to even a hundred bacilli. Frequently one finds great masses or groups of bacilli. If the bacilli are left in the antiformin solution for many hours, one can see that they are beaded, swollen and stained with difficulty.

If the sediment is required for cultural studies or for animal inoculation, it is washed with normal salt solution several times. After this washing, it is possible to make direct smears on an appropriate media, and if acid fast bacteria are present, one may obtain growth without contamination with other organisms. Recently, we have been making our primary cultures on a modified egg medium. For several years, the regular egg medium made according to the formula suggested by Dorset has been in use. This media is easily made. The whites and yolks of eggs are mixed with twenty-five per cent. their volume of distilled water, are coagulated and sterilized by heating to eighty-five degrees centigrade on three successive days. This medium allows one to get cultures of tubercle bacilli after three or four days. As will be readily seen, this is a marked saving in time over the old method, where cultures were only obtainable—as on agar—after a month's or six weeks' time. We have modified the Dorset's medium in the following manner: the white and yolk of fresh eggs are intimately mixed, without getting any more air in them than possible. This mixture is then mixed with an equal volume of normal salt solution—ninety-five per cent. glycerine. This mixture is inclined in tubes, and is then sterilized and coagulated as is Dorset's medium. By the use of this medium, it is possible to get a growth of tubercle bacilli within thirty-six hours under favorable conditions. It will be readily seen what a saving in time this is, particularly when the finding of tubercle bacilli is to determine operative procedures.

Of late, observers have suggested the use of some of the hydrocarbons as a step in the securing what acid fast bacteria may be held in solid or thickly mucoid material. We have followed the work of the Japanese investigators closely, using such hydrocarbons as benzol, distilled or non-distilled kerosene, and ligroin. The chosen hydrocarbon is mixed with the sediment of material after centrifugalization. If acid fast bacteria are present, the affinity which the hydrocarbons have for the fatty content of the acid fasts permits of them being freed from the sediment and floated in the "ligroin collar" at the top of the mixture. From this collar the acid fast bacteria may be drawn out by means of a platinum loop, and directly smeared on glass and stained in the ordinary manner. This method appears to have certain distinct advantages, particularly when we are dealing with medium in which the bacilli are so entangled as to be reached with difficulty by the ordinary platinum loop. We are carrying on a series of experiments with this method, and shall doubtless have something to report later. The special tubes used in this method are shown herewith.

If tissue (solid) is examined, it should be cut up into small bits, rubbed up in a conical glass with sand, washed to free from

the sand, and then mixed with the antiformin solution. Such material as glands, partly altered lung, liver, etc., require very complete rubbing up with sand, and strong solutions of antiformin (from thirty to fifty per cent.) to free the bacilli. Uhlenhuth and others suggest that where antiformin is to be used on solid organs, the organs may be cut into small pieces by the freezing microtome. If warm antiformin is now used on such material, the tissues are dissolved in about five minutes.

4. *Practical Value of the Antiformin Method:*

The writers have made use of the antiformin technique for the past ten months. Without going into detail concerning the various experimental uses to which the preparation has been put, we may claim distinct advantages for the method over the regular technique for the determination of acid fast organisms. We have here a method which allows the detection in media not seeming to contain acid fast organisms by the ordinary method. Various workers have shown the superiority of antiformin treated material in this regard. In one series of twenty-five per cent. of cases long examined for tubercle bacilli, without success, seventeen per cent. of the cases revealed numerous bacilli after treated with antiformin and then direct culture made oh egg medium. In the cases where the ordinary method reveals a few bacilli, whicn may be readily missed even by the expert examiner, the material when treated with antiformin shows such a large number of organisms that the novice in microscopic technique can easily detect the bacilli. In the examination of such media as feces, urine, milk and solid organs for acid fast organisms, we have a method which allows of large range of usefulness. Even if the bacilli are not detected in the ordinary slide preparation, one can make direct culture, and if the organisms are there, can recover them within a few days. The contaminating organisms are destroyed, and the cultural growth shows but acid fasts. It is self-evident what a valuable procedure the antiformin method becomes, under such conditions. The advantages of immediate animal inoculation are extremely great where dubious results have been obtained by various tuberculin tests and pathologic section, particularly of such material as enlarged glands, diseased bone, skin tumors and the like.

IS STERILIZATION OF THE HABITUAL CRIMINAL JUSTIFIABLE?

Charles Edward Nammack, New York, thinks that if sterilization for criminals is to become general it must be voluntarily submitted to. As a punishment it is barbarous, degrading, and its supposed benefits will not be realized, since the mental condition of the criminal will be bad, and he will have a thirst for vengeance. He will still be in a position to have connection, while he cannot procreate. The experiment has been made by one State. The author states that transmission of a criminal brain to the descendants of the criminal is impossible, since only physical abnormalities, susceptibility to certain diseases, and defects of developement are transmissible, mental and moral defects being only acquired. Crime and criminality are acquired, the result of environment and parental unfitness. Mutilation of the criminal is characterized as inefficient and absurd as a preventive of crime. Ethically and morally it is unjustifiable. Lack of self-control and of fixed purpose are the causes of crime, and they can be obviated by discipline. The probation system, parole, and reformatories are the best remedies.—*Medical Record, February*, 11 1911.

An hypertrophied prostate in which nodules can be felt per rectum is carcinomatous.—*American Journal of Surgery.*

The Journal of the Michigan State Medical Society

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MAY

EDITORIAL

Your Committee recommends, that on May first of each year the Journal of the State Society be discontinued to all subscribers and members in arrears and that such members be reported to the Secretary of the American Medical Association as "dropped for non-payment of dues."—*Report of Business Committee unanimously adopted by House of Delegates.*

"HAVE YOU PAID YOUR DUES?

"IF NOT, YOUR MALPRACTICE DEFENSE AND OTHER STATE SOCIETY PRIVILEGES HAVE LAPSED.

"DO NOT NEGLECT THIS IMPORTANT MATTER.

"IF YOU ARE SUSPENDED FOR NONPAYMENT OF DUES, BLAME NO PERSON BUT YOURSELF."

PAYMENT OF DUES AND SUBSCRIPTIONS

WITH this number of the JOURNAL we are publishing a full list of the members of the Michigan State Medical Society. These names are arranged alphabetically by counties, and the starred names are those whose dues for the year 1911 have not yet been turned over to the State Secretary. Complying with the requirements of the United States postal regulations, these names will have to be taken off the list before the mailing of the next JOURNAL unless the subscription and dues are received. The State Secretary was instructed to do this by unanimous vote of the House of Delegates, and has no choice in the matter.

The fact that a name is starred in this list does not necessarily mean that the member has not paid his dues to the County Secretary, but may mean that the County Secretary has made a mistake in reporting to this office, or that he has not yet reported. In either event all those whose names are starred should see their County Secretary at once and have the matter adjusted. If the remittances are not received at least twelve days before the mailing of the next number, the members interested will have a break in the files of the JOURNAL, and will forfeit their eligibility to membership in the American Medical Association.

THE HEALTH OFFICER OF BAY CITY

SPEED the time when the health of the people, and the machinery for preserving it, shall be freed from all political influence; when such vital matters shall receive the best thought of those best qualified to handle them. Under our present conditions the office of Health Officer, in many of our Michigan cities, has become a political pawn to be doled out to the one politically most deserving.

Mayor-elect Woodruff, of Bay City, in his inaugural, announced a policy which it would seem were well worth following. He asked the Bay County Medical Society to name three of its members who are best qualified for the office, and from the three named he will select the Health Officer. He has also asked the Bay County Medical Society to co-operate with the new Board of Health in making the sanitary laws and regulations of Bay City the most scientific possible.

Mayor Woodruff announces with this plan his determination to give all the different departments of the city the best professional advice and counsel he can obtain.

This is a magnificent opportunity for the Bay County Medical Society to demonstrate what modern hygienic ideas and well se-

lected, unhampered sanitarians can accomplish; to demonstrate not only to itself and Bay City, but to the whole State, the almost unlimited benefits of a well-organized, well-conducted and public-spirited local medical society, especially when that society contains, as it should and does, the best sanitarians and physicians of the community.

We expect when we visit Bay City, a year or two hence, to find it one of the cleanest and most sanitary cities in the State. We shall be interested in watching its health reports.

A. M. A. MEETING

THE American Medical Association meets in Los Angeles June 27-30, 1911. As many of our members as can should plan on attending this meeting, not only because it will be one of the best meetings the American Medical Association has had, but because it will give an opportunity of taking a rest and vacation. It will broaden the man who attends, medically, physically and mentally.

In attending this meeting a choice of routes, both going and coming, is provided.

The Santa Fe will run special trains:

Lv. Chicago, (Dearborn Sta.)	8.00 P. M.	June 21
Ar. Kansas City, Mo. - -	9.00 A. M.	June 22
Lv. Kansas City, Mo. - -	9.10 A. M.	June 22
Lv. Denver, Colo. - - -	3.30 P. M.	June 22
Ar. Albuquerque, N. M. -	11.05 A. M.	June 23
Lv. Albuquerque, N. M. -	12.30 P. M.	June 23
Ar. Laguna, N. M. - - -	2.30 P. M.	June 23
Lv. Laguna, N. M. - - -	3.30 P. M.	June 23
Ar. Grand Canyon, Ariz. -	6.00 A. M.	June 24
Lv. Grand Canyon, Ariz. -	10.00 A. M.	June 25
Ar. San Bernardino - - -	4.55 A. M.	June 26
Ar. Los Angeles, Cal. - -	7.00 A. M.	June 26

This train will afford every first-class accommodation, a choice of upper and lower berths, compartments and drawing-rooms. There will be a fully equipped club car, also an observation car, where the ladies may congregate and enjoy the passing show. The club car and observation parlor are supplied with an abundance of the best current magazines and newspapers, a carefully selected library, writing material, and news from the outside world.

After leaving Laguna, no extended stops will be made until the Grand Canyon of Arizona is reached. Here the party will remain for twenty-eight hours, exploring the wonders of this stupendous chasm.

Passengers may use their Pullman accommodations while at the Grand Canyon, if they choose to do so; or they may secure accommodations at El Tovar, the club-like hotel on the rim, at rates ranging from $4 per day and up.

Fare from Chicago will be $62.50 round trip, going and returning same route, or different route with the exception of via Portland, which will cost $15 extra. The rates from all Michigan points will be $62.50 plus one and one half fair to Chicago.

Members attending this meeting are at liberty to go and return this same route, or return by the middle route, through Salt Lake, etc., or they may return by way of the northern route, upon payment of $15 extra. Any combination of these routes may be made, but probably most will prefer to go by way of the Grand Canyon, returning at their leisure by the other routes.

THE 46th ANNUAL MEETING

THE 46th Annual Meeting of the Michigan State Medical Society should be the best attended that we have ever had.

Those desiring to present papers should correspond with the Secretary of Section (see adv. page II), sending the title of the paper and a short abstract, not to exceed one hundred words. The titles and abstracts of all papers should be in the hands of the Secretaries by the middle of June, in order that arrangements for symposiums, etc., may be made, and the program prepared for publication early enough to com-

ply with the by-law requirements, i. e. The program must be published and distributed to our members at least thirty days before the meeting.

The afternoon before the meeting the third annual meeting of the County Secretaries Association will be held. At this meeting all County Secretaries are requested to be present. Councilors, officers of the State Society and Presidents of the County Societies are also urged to attend. The program for the County Secretaries Association is in charge of Dr. W. C. Garvin, Secretary, Millington.

MEMBERSHIP IN THE A. M. A.

LAST month we published a letter from the Secretary of the Board of Trustees of the American Medical Association relative to certain changes in the membership of the Association, making it co-extensive with membership in the different State Medical Societies. We also requested the opinions of our members on this question, so that a proper report may be sent to the A. M. A., and so that we can act intelligently on this question at the September meeting when it comes before the Society.

The plan has not entirely been decided upon, but the proposition is to make membership in the State Medical Society carry with it membership in the American Medical Association. The membership and the subscription to the JOURNAL of the A. M. A. would have to be separated in some way. This is an important question, as it would also involve some changes in our own organization. We hope the interested members will not neglect this matter, but will join in a discussion, and help to determine what is best.

COUNTY SOCIETY NEWS

COUNTY Secretaries and our members in general are requested to notice our County Society News this month. We are endeavoring to make this department as intensely practical as possible.

IN MEMORIAM

Frank A. Van Sickle, M. D., Detroit College of Medicine 1892; a member of the Michigan State Medical Society; died at his home in South Frankfort, Michigan, March 10, from septicemia, aged forty-six.

James B. Judson, M. D., Homeopathic Hospital College, Cleveland, O., 1876; a veteran of the Civil War, and a practitioner since 1863; died at his home in Springport, Mich., January 21, from cerebral hemorrhage, aged sixty-six.

Arthur Henry Bigg, M. D., Detroit Medical College, 1881; a member of the American Medical Association, Michigan State Medical Society and Detroit Academy of Medicine; died at his home in Detroit, March 17, aged sixty-nine.

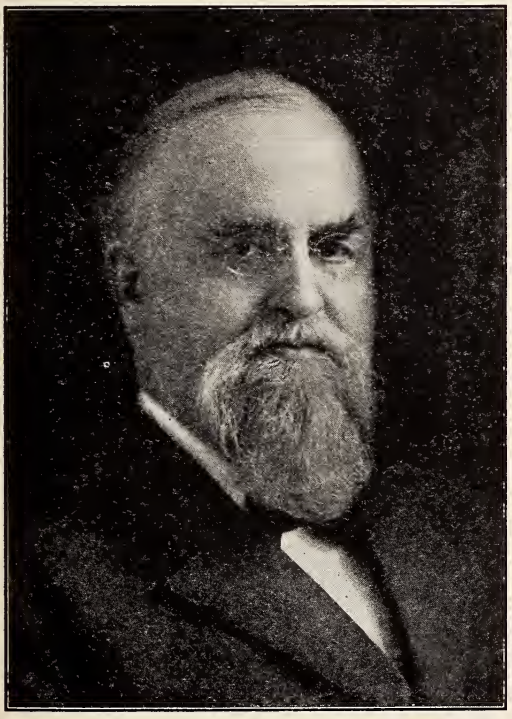
William T. Carpenter, M. D., University of Nashville, Tenn., 1864; of Iron Mountain; a veteran of the Civil War; and one of the founders of the Ishpeming Hospital; a member of the Michigan State Medical Society; died in Maitland, Fla., March 6, aged seventy-three.

Robert W. Cooper, M. D., Michigan College of Medicine and Surgery, Detroit, 1892, a member of the Michigan State Medical Society, formerly of Milford, Michigan, died at his home in Kingston, Michigan, March 11, from brain abscess following influenza, aged forty-seven.

George Duffield Stewart, M. D., Detroit (Mich.) Medical College 1878; sheriff of Wayne County, Michigan, in 1898 and 1899;

formerly city physician of Detroit and physician of Wayne County; afterward a resident of Mt. Clemens; formerly a member of the Michigan State Medical Society and the Wayne County Medical Society; died at his home in that place, March 7, from nephritis, aged fifty-five.

Dr. Leartus Connor, President of the Michigan State Medical Society in 1902 and Chairman of the Council until the fall of 1905,



DR. LEARTUS CONNOR

died at his home Sunday morning, April 16. Dr. Connor was born January, 1843, in Orange County, New York, and received his early education in the district schools and in the Wallkill Academy, going from the latter to Williams College, where he received the degree of A. B. in 1865 and M. A. in 1868. He then served as assistant principal at Mexico Academy, in Mexico, N. Y. Here he remained for two years, giving up most of his leisure hours to studying the flora and fauna of that region and to the reading of medicine in the office of a well-known practitioner, Dr. George L. Dayton. In 1867 and 1868, he continued his studies at the University of Michigan, and then spent two years at the College of Physicians and Surgeons in New York city. While there he gave much time to the study of diseases of the eye and ear.

Dr. Connor first located at Searsville, N. Y., but in 1871 came to Detroit to fill the chair of chemistry in the Detroit Medical College. He subsequently taught physiology and diseases of the eye and ear. At various times he was on the staff of St. Mary's Hospital, Harper Hospital, the Children's Free Hospital and the Woman's Hospital.

From 1871 to 1895 Dr. Connor was actively engaged in medical journalism, editing a magazine known at different periods as the *Detroit Review of Medicine and Pharmacy*, *Detroit Medical Journal*, *Detroit Lancet* and *American Lancet*. He had a national reputation as an exponent of higher and more rigid medical education, and was especially well known and popular in the local State and national medical organizations, in which he held many offices of honor and trust. He was vice-president of the American Medical Association in 1882, and a trustee from 1883 to 1889, and again from 1892 to 1894.

He is survived by two sons, Drs. Guy L. and Ray Connor, both of Detroit.

February 23 last the physicians of Detroit gave Dr. Connor a testimonial dinner in honor of forty years in practice. The funeral occurred April 18.

Charles Salter Wheeler, M. D., University of Vermont, Burlington, 1879; a member of the Michigan State Medical Society, and for several years a member of the State Pension Board; died at his home in Flushing, Michigan, March 10, from cirrhosis of the liver, aged fifty-four.

COUNTY SOCIETY NEWS

BAY

The Annual Meeting of the Bay County Medical Society was held at the residence of the President, Dr. J. W. Hauxhurst, Monday evening, December 12, 1910. At 6.30 P. M. a savory six-course turkey dinner was served by the President, to which thirty-five members and four guests did full justice.

After dinner, owing to the fact that the guest of the evening, Dr. E. W. Haas, of Detroit, had to catch a train, his paper was made the first order of business. The subject was "The Hypophysis and Akromegaly," with the report of a case. After a general discussion of the subject of internal secretions, the doctor dwelt on the relation of the hypophysis in the symptom complex of akromegaly. Macroscopic changes in the hypophysis nearly always accompany this disease, while microscopic changes can always be found. In the case reported, X-ray plates showed an erosion of the sella turcica. Operative interference is extremely difficult, and has been done only a few times, but offers the best hope of radical cure.

Extracts from Secretary's Annual Report: The past year may be called a successful year in the history of the Bay County Medical Society. The membership report last year was a poor one, inasmuch as the Secretary tried to make a clean-up of the roll and start fresh. Last year showed a net loss in membership of twelve, while this year we can show a net gain of four. One member has been transferred to honorary membership; one has been lost by death, namely, Dr. Chas. Frieberg; and five new members have been added to the roll, making an active membership of forty-eight and an honorary of two. Total, fifty.

Twelve regular meetings have been held, besides a number of special meetings to arrange for the meeting of the State Society. Of the present membership, nine have not been present at any meeting this year. We have at present seven out-of-town members, seven of whom have not been present at a meeting this year. These figures present food for thought as to how this Society may be made something broader than a Bay City Medical Society. Four members have missed but one meeting. Three members have missed two meetings. Thirteen members have attended eight or more meetings.

At the meeting of February 27 Dr. W. G. Kelly introduced amendments to the constitution, striking out the words "practising non-sectarian medicine" from Article III, and "agreeing to practise non-sectarian medicine" from Article XIII.

The papers on

Medical Inspection of School Children

were then read. Dr. R. W. Brown took up the general consideration and Dr. R. C. Perkins the "Legal Aspects."

Dr. R. W. Brown (abstract): The author calls attention to the importance of the subject. Bay City has the same need as larger cities. Defective eyes, impaired hearing, decayed teeth, adenoids, tonsils, etc., abound here and need the attention of a specialist. Health and education belong hand in hand. We have compulsory education laws. Why not see that the health is safeguarded in order to take the best advantage of education?

Increased requirements in school work have told on the health of pupils. The matter demands attention. Good results of medical inspection have been noted wherever established.

One of the values of inspection is in the discovery of defects unknown to the parents. An examination shows that many cannot see what is put on the blackboard, do not understand what is going on, and fall behind. Others have headache from eye strain. Otitis media is the most frequently overlooked disease in children. Enlarged tonsils, adenoids and swollen glands play their part in making backward children.

The taxpayer must pay double for children who lag behind on account of toothache or malnutrition and various intestinal diseases due to swallowing bacteria of decayed teeth. Tuberculosis is alarmingly prevalent among school children. Nervous diseases, skin diseases, and all acute contagious diseases must be guarded against.

People are beginning to see that they cannot

afford to leave their children unsafeguarded. The cost of backward children, disease, death and dependent families is greater than the cost of a school doctor.

The co-operation of the parent must be secured, to give the child proper medical care after information as to its condition is given by the medical inspector. The authorities should not allow a child to be neglected if his parents are too poor or too indifferent.

Many foreign countries have already adopted medical inspection.

Massachusetts has the only state law making medical inspection of school children mandatory in every school. Other states have some forms of medical inspection laws, and in 1908 seventy cities outside of Massachusetts had some form of medical inspection. Detroit, Grand Rapids, Lansing and Ann Arbor are in line. Systems vary according to the size of city, location, etc.

The attitude of authorities is important. The medical inspector should have a wide scope, and look after hygienic conditions as well as disease.

Doctor, teacher and parent should work in harmony. The medical society can do much The child must be given the physical basis for his full development. The dangers of neglect and the good that can be done are well known. The opportunity is at hand.

In relieving the child of his infirmities we uplift him morally, give him happiness, make his aspirations higher, his accomplishments greater, and society better.

Dr. R. C. Perkins (abstract): Little could be said on the subject if we limited ourselves to present laws of the state on the subject. The Secretary of the State Board of Health realizes the lack of proper laws and hoped to see legislation this winter.

Massachusetts is the only state with specific laws on the subject making medical inspection mandatory. This law provides that the school authorities shall appoint the medical examiners, except in cities or towns where Boards of Health are already maintaining such inspection as the law requires. In these cases the Board of Health makes the appointment.

Examination of each pupil is provided at least once a year for defective sight or hearing or any other disability. Tests for sight and hearing are given by the teachers, but the Board of Health prescribes the directions for the tests. Notice of defects when found must be sent to parents.

In most states, including New York, medical inspection has been carried on under general laws referring to the prevention and elimination of infectious and contagious diseases.

Under the general law the Detroit Board of Health carries on medical inspection by means of thirty inspectors at a salary of $250 per year. The schools are inspected daily. In Ann Arbor and Grand Rapids the work is under the direction of the Board of Education.

Following are some of the state laws under which medical inspection of schools could be carried on either under the direction of the Board of Health, or of the Board of Education with the backing of the Board of Health:

Section 4412 of the Compiled Laws of 1897 reads: "The Board of Health shall make such regulations and by-laws respecting nuisances, sources of filth and causes of sickness within their respective townships as they shall judge necessary for the public health and safety."

Section 3134, Public Health in Cities, reads: "The council of any city may enact all such ordinances as may be deemed necessary for the preservation and protection of the health of the inhabitants thereof, and to prevent the introduction of malignant, infectious or contagious diseases within the city."

The Board of Education has authority to institute medical inspection, and the Supreme Court of Minnesota has recently upheld the Board of Education of Minneapolis in hiring inspectors for this work.

The regular meeting of the Bay County Medical Society was held in Dr. Baker's office Monday evening, March 13th, at 8.15 p. m.

Dr. Wm. Kelley made a motion that the amendment to the Constitution and By-Laws, introduced at the previous meeting, striking out the words "agreeing to practise non-sectarian medicine," be passed. Carried.

Dr. Edwin S. Ely, of Bay City, was elected to membership. Dr. C. H. Baker reported an interesting case of infantile scurvy. Dr. C. A. Stewart made a report on the use of salvarsan.

The paper of the evening was then read by Dr. H. M. Gale, on

Influenza.

Abstract: The doctor said that the poison of influenza is carried by the atmosphere. Certain barometric conditions precipitate it to the earth, and large numbers in the locality become affected at the same time. The suddenness of its onset is one of its remarkable features. The organ primarily affected is the liver, its functions being arrested and a systemic poisoning resulting. Its

most prominent symptoms are great mental depression and disturbances of the digestive functions. Redness of the faucial arches is one of its most constant physical signs. Many cases have symptoms closely simulating typhoid fever; even the "rose rash," according to European authorities, is mentioned as not uncommon, hence many mistakes are made in diagnosis. Owing to the general depression and weakened condition of the heart, coal-tar derivatives should not be administered.

The following took part in the discussion: Drs. Hauxhurst, Baker, Hammond, Hoyt, Bradley, J. W. Gustin and Perkins.

The Society then entered into an informal discussion of the city water supply in its relation to the typhoid fever existing in the city.

A meeting of the Bay County Medical Society was held Monday evening, March 27th, at the Wenonah Hotel. Twenty-one members of the Society, and our guest, Dr. Eugene B. Pierce, of Howell, had dinner in the hotel ordinary at 6.30, after which Dr. Pierce gave a talk on

The State Sanatorium, Howell, Michigan.

Abstract: The State Sanatorium has accommodations for eighty patients, but as yet the appropriations were never large enough to allow that number to be accommodated. The average for the last twenty months has been about fifty.

Two classes of patients are received, those whom the county certifies and pays for at the rate of $7 per week, and those who pay their own way, paying the total expense for their care at the Sanatorium, which, under the present ruling, is $11.48 per week.

Application blanks are filled out by the physicians in charge of the cases and the examining physicians, and forwarded to the superintendent, who accepts or rejects the cases as seems best according to the conditions.

Patients running temperature over 100.5° are put to bed and kept there until the temperature falls, and as soon as it reaches normal some exercise is given which is gradually increased as the condition of the patient permits. The temperature, pulse and respiration are watched carefully, and each patient is treated according to the amount of money he is paying.

Three well-balanced meals are served daily, with lunches in the morning and evening; less proteid is given than formerly, so that the number of eggs taken is reduced to a minimum and the amount of meat is also reduced from former estimates. The patients do just as well on the lower proteid diet as they did upon the forced feeding, and it is believed that the results will be better. Medicine is used to treat all complications.

The institution is planned to care for patients who are able to be up and about, help take care of their own cottages, and come to meals. There are only eight beds in the infirmary for those running fever; therefore patients who are in the advanced condition cannot receive the care they should without a greater expenditure of money than we are at present able to make.

The results of the treatment during the last three years show 46% "apparently cured" and "arrested" cases discharged. This percentage is equal to the average in most institutions of this character; therefore we feel that the climate of Michigan is suitable for the treatment of the disease, and it is unnecessary for patients to think they must go to Colorado or Arizona to get well.

The doctor distributed some literature and application blanks and answered a number of questions. The members appreciated the opportunity of becoming better acquainted with the work at Howell, and unanimously offered a vote of thanks to Doctor Pierce.

H. N. Bradley, *Secretary.*

CHIPPEWA

At the March meeting Dr. Willison reported the interesting case of a foreign body in the rectum.

On March 3 Mr. D——, age fifty-five, reported at his office with the following history. About five hours before, while taking an enema of castor oil by introducing a cocktail bottle into the rectum, the bottle got out of his grasp and slipped into the rectum beyond his reach. The valves of Huston grasped the neck of the bottle so that when he would strain to force it out it would turn crosswise in the rectum. On account of the slippery condition of the bottle it could not be extracted with fingers or forceps. It was necessary to administer an anesthetic, dilate the sphincters and snare with a piece of wire.

I. V. Yale, *Secretary.*

DETROIT ACADEMY OF MEDICINE

The following tribute to Dr. A. H. Bigg was unanimously adopted by the Detroit Academy of Medicine:

In Memoriam

A choice spirit has gone from our midst, a unique personality passed to that bourne whence no traveller returns.

On March 17, 1911, there departed from this life, at his home in Detroit, Dr. Arthur H. Bigg, long a member of the Academy, and who had served it as its president.

He was born at Swansea, Wales, June 1, 1841, but when only seven came to Picton, Ont. His father was an English gentleman, his mother of Welsh ancestry. Of her we know but little, but the father was of scholarly and refined tastes, and from this association Dr. Bigg, too, acquired scholarly tastes and the spirit of the student. Though a fine scholar, the father was unable to make his family independent, and Dr. Bigg, equipped with a good, though not a collegiate education, started out for himself at an early age, coming to Michigan when about twenty. Though his ultimate plan, from boyhood, was the study of medicine, he bided his time, engaging temporarily in canvassing, farming and pharmacy.

In 1864 he married Miss Adeline Wyckoff, of Shiawassee County, who survives him, and did not come to Detroit until 1876. Here he was for years a successful druggist, graduating from the Detroit Medical College in 1881, supplementing his medical course later on by postgraduate work in New York city. Detroit has been his only field of practice, and he much endeared himself to his patients.

Dr. Bigg was exceedingly modest and retiring in disposition. A clear thinker, he expressed himself not seldom in a unique English born of his early reading under the paternal tuition, for he was early a great reader of the "Spectator." He knew Dickens thoroughly and Shakespeare well. His reading was always of a kind calculated for mental improvement, the standard authors of a past generation, and he relished Kipling of more modern day. This early training gave him a literary taste and equipment which was apparent in his dignified and choice expression.

Of religious temperament, he was always a great reader of the Bible, of which he was truly fond. He loved it for its literary value as well as for the soul-satisfaction which he there found. He was long a faithful member of the First Congregational Church of Detroit, and one of its pastors told me years ago of his call upon a parishioner somewhat mentally disturbed, and of his finding Dr. Bigg kneeling by the bedside in prayer, to the great satisfaction and pleasure of the patient, thus filling a double office.

Dr. Bigg, though gentle and retiring, was nevertheless tenacious and jealous of his rights. He had a keen sense of justice, and his manner had an air of courtliness, which we see too rarely.

His modesty was so exceeding that he almost resented any special attentions from friends, lest some one should put himself out for him. If he had any intimates, they are unknown to the writer.

His was a character of sterling worth, but if one sought to know it better, he instinctively withdrew and made futile the quest, and even in his final going out from us, he seems to have breathed the spirit of Pope's ode:

"Thus let me live, unseen, unknown,
Thus unlamented let me die,
Steal from the world, and not a stone
Tell where I lie."

DETROIT OTO-LARYNGOLOGICAL SOCIETY

The April meeting of the Detroit Oto-Laryngological Society was held Tuesday, April 4th, at the Eye and Ear Hospital, Ann Arbor. From 3 to 5.30 was devoted to clinics,—a mastoid operation by Dr. R. B. Canfield, demonstrating a complete exenteration and removal of the mastoid tip. Following this we examined about fifteen or twenty interesting eye cases, including leucocythemic and leukemic fundi, organized vitreus, non-specific choke disc, etc.

Dr. W. R. Parker performed a Ziegler operation, and in a second patient, with chalky capsule, following an unsuccessful Ziegler extracted the lens. We also saw ten or twelve ear, nose and throat patients in Dr. Canfield's clinic, besides several recovering after mastoid operation.

The New Eye and Ear Hospital was inspected as a hospital, and as to its teaching facilities.

After the clinics we did full justice to a dinner served in the University hospital to the visiting physicians.

Owing to the President, Dr. E. L. Shurly being confined to his bed with a heavy cold, Dr. Parker presided at the dinner, and gave the first paper of the scientific program, "Nystagmus."

Dr. Parker outlined the condition, and the complete nervous mechanism which is brought into play when nystagmus is present. He showed how a light stimulus tends to cause rotation of the eye toward the light until the image impinges upon the macula, but in certain conditions the eye will swing past, then back again. The complete course of the nervous impulse was traced with charts.

Dr. Canfield spoke of the nystagmus of otitic origin, giving the theories applicable, many of the tests, and their significance.

Dr. Camp spoke of nystagmus from the stand

point of the neurologist. He spoke of the different forms of nystagmus and their diagnostic value, also the nervous mechanism and lesion in control.

The discussion was by Drs. Eugene Smith, Don M. Campbell, Livingston, Amberg, Beagle, Haughey, Sanderson and others, adjournment being at 9 P. M.

Emil Amberg, *Secretary.*

GRAND TRAVERSE

The regular monthly meeting of the Grand Traverse-Leelanaw County Medical Society was held on the evening of April 4 at the Northern Michigan Asylum. Fourteen members were present and four guests. Minutes of last meeting were read and approved. After the other business was transacted the program for the evening was taken up. The program was in charge of Dr. J. D. Munson. Doctor Munson read a very interesting paper on Vaccines and Vaccine Therapy. The paper was followed by a general discussion.

One of the patients then read a paper on "Hallucinations." This was a very unique paper, and showed rare insight on the part of the patient. He described his hallucinations from his standpoint, and discussed certain theories which he had concerning them. After the program was finished Dr. Munson invited the physicians to his apartments, where a four-course luncheon was served. The rest of the evening was spent at cards.

R. E. Wells, *Secretary.*

HALLUCINATIONS

Chas. Schuman, Patient, N. M. A.

Hallucination, from the doctor's view, is that of an imaginary thing, caused by disease or a weakened nervous system. What I consider to be misunderstood by the profession is the necessity to believe more in the patient, or to find reasonable ideas why the patient has hallucinations. While there may be innumerable diseases that give rise to a just conclusion of hallucinations, I consider that the patient may be nearer right in his ultimate analysis of their causes than the physician; that the patient does see unnatural things, things that he cannot by reason account for, things for which natural laws do not embrace a scope or solution. We speak of imagination having to do with it, and I find that imagination is thought coming from somewhere. In this case imagination would be an association of thoughts that would produce a mental picture. This, I consider, would fulfill the physician's idea of hallucinations. In short, he would regard it as an imaginary thing, having no foundation other than as a voiced expression of the subconscious psychic activity of the individual.

I have had what doctors term an hallucination as long as I can remember, and I never knew it to be an objectionable thing until I was placed in an asylum. The knowledge of my experience was questioned out of me, any way to get it out, and then the information thus gained was used against me. Through my London experiences I found myself feeling these mysterious forces more than usual. Association with insane men has made me a walking evidence of nearly every ill suffered by insane men. When I say I have survived and preserved my mind, I mean to say that I have endured and overcome the ills that reduce some men to mental helplessness or to some single train of delusional ideas.

Before it is possible to have an hallucination it is necessary to feel a magnetic influence and a gradual passing into a subconscious state. Then, quick as a flash of light, one sees an hallucination. It is not seen with the eyes; it is seen with the dome of the forehead. Why it is seen in the forehead I believe is because such things are visible with the eyes closed. An hallucination, as it is called, may consist in a woman's face, with her head bound with a cloth, and her garments may resemble or conform to that of some particular style. How could such a thing be a deception of senses with no consistent foundation? If I were to say I had seen a green Indian's face, could note his eyes, teeth, hair and head-dress, and I know that on the wall where I saw him all is blank space, I must conclude that it is through some mysterious force that such impressions are received into my mind. Such impressions mystify the patient because he cannot understand them, nor find reasonable explanation for them. What good is it to think of such things, I have been asked. I answer then, "What good is it to find fault with the man who tells the truth?" To forget a truth would impair my memory and delude myself. A man with sufficient intelligence can look to himself for his answers. Actual qualification and experience must control these forces as to whether there is truth in the natural or the supernatural, or in both. I sometimes think if Christ again returned to earth there would be some excuse for placing him in an asylum; and from reading works on insanity I believe doctors could find some justification in attempting to commit him to an asylum. The Apostle Paul saw things; he also heard voices. To no natural cause are such things due, yet in

supernatural or psychical research and in the Bible, accounts of such things are given.

Another reason giving me evidence of seeing phenomena is that one sees unexpected things, things of which one has not had the slightest forethought. Now, I affirm that these men do see things, and it is for the profession to make new investigations to learn of these so-called false perceptions and causes. The fault from seeing things is oftentimes a stimulant towards expecting something to happen. It strikes a man as unusual, and may give him a false opinion of himself, fostering in certain types of men the belief that they are endowed with supernatural powers,—thus inducing what you doctors call paranoia.

It is a fact that in the three asylums I know of, the physicians are not handling these seeing and hearing patients with enough credulity, enough belief. Physicians doubt too much, or they have an inability to be in sympathy with the patient, although I know they try very hard. I firmly believe all the doctors I know, without exception, mean well, but they have not experienced actual insanity. They are educated from books written by men of observation and education with no insane experience other than to find the mental faults they are looking for. The tangle of mental faculty is catalogued, but why do men go insane? The violation of nature's laws is its cause. The physicians of Asia and Africa class illness as having to do with spiritual troubles, that one possessed with insanity is possessed of a devil. Christ cast out devils. Be it God or devil, I am convinced that insane men are more deeply concerned with the infinite than is quite pleasant to think about. If fools cannot enter the kingdom of heaven we are in the midst of souls that are lost; or is an insane man a fool?

The hearing of voices is ofttimes accompanied by seeing phenomena. Voice hearing to me is not a deception of sense, but the knowledge of an extra sense, not generally understood. From having read a primer on insanity I believe that states called insanity are not always insanity,—e. g., that my sense of spiritual hearing, as would be explained in this book, my ability to hear voices in machinery and in music, is not insanity. Music carries voices. Spiritual sounds are aided by natural sounds. The highest type of voice hearing is to get impressions when all is still, and the physical sensation is that you are going to die from actual misery. The hearing of voices was not at all times unpleasant, though its chief disadvantage was that it was a monotony of hearing the same thing over and over again. This is nerve racking. To me it is a positive fact that patients do hear voices; it is an ability they have, and the source of the voices is the next question. Are they the voices of the dead or the living? On this plane of the universe it is impossible in ordinary science to get energy from nothing. If a patient did not hear a voice, through what sense could he possibly get such an idea? That a patient gives verbal reproduction of what he has heard makes it evident to me that he does hear. That one hears voices does not imply that he expects others to hear them, or that others are able to hear them. The patients that I have heard explain hearing voices are generally pretty sincere, and do not expect anything but belief. I consider that one under such control is liable to feel specially blessed by God. This class of patients must be dealt with with more sympathy and confidence. To forget is to deceive one's self From my point of view it is neither fair to God nor to man to be compelled to forget such evi dences.

The question is: Are such voices from good or evil, or from neither source, or from familiar spirits, or are they impressions wirelessly received by telephone? We are in the days of wireless telegraphy, and why not be liberal? Why not be open to consider telepathy as an angel to some of these unfortunate men? Which is the greater, the organs of a living body or the imitation of these organs in mechanical appliances?

Telepathy known to the Indians and to the Africans is a wireless speech conducted between individuals, and I judge that the violation of nature's laws spoils this ability. These voice hearing patients are adepts in telepathy, and such patients are not at all times conscious of what they hear. The force of what is called imagination sets in and they imagine all sorts of things to produce insanity. To feed a patient swine is to set him back. Pork fed insane men increases insanity. Systematic diet will *cure* many forms of insanity. The association with insane men is demoralizing to me. It is tearing from me those finer sensibilities necessary to my ideals. I patiently endure my state to place my experience, not for my conviction as an insane man, but to benefit humanity. I have concluded that seeing the absence of insanity is a great thing. In me my insanities and the accidents of my imagination are my strongest thoughts. My insanity is necessary to my life.

Christ did not always give direct answers.

Some of his answers were in parables, to avoid placing objectionables into understanding that is dangerous,—He gave all He could give, but Heaven lost one-fourth its stars, and to get them back Christ had to go to hell.

HILLSDALE

The regular meeting of the Hillsdale County Medical Society was held at Hillsdale March 3.

Dr. F. H. Spencer, Hillsdale, read a paper on "Practice of Medicine in Alaska." Dr. W. H. Sawyer, Hillsdale, read a paper on "The Recent Epidemic of Poliomyelitis." Dr. Dean Loree, of Ann Arbor, read a paper on "Renal and Ureteral Calculi."

Committee was appointed to draw up resolutions to be published in the local paper, requesting that they refrain from publishing the names of physicians in connection with notices of sickness, operations, etc., as the present custom is considered in the nature of advertising in many instances.

B. F. GREEN, *Secretary.*

KALAMAZOO ACADEMY OF MEDICINE

The meeting of March 28th was devoted to a very interesting talk by Dr. M. A. Mortensen, of Battle Creek, about some of the new work being done abroad, and by Dr. A. S. Kimball, of Battle Creek, on smallpox.

Dr. Mortensen told about the methods of administering salvarsan: that many of the great clinicians of Germany and Vienna are giving it in two and three doses, while some rely upon one dose. They are controlling it with the Wassermann reaction, and report a large percentage of Wassermann-Negative reactions following. It seems most efficacious in lesions of the mucous surfaces and in secondary lesions. Some are now following it with mercury and iodides, feeling that, while salvarsan is of undoubted value, we cannot as yet abandon the old treatment. European clinicians are now also giving much attention to the "pre-sclerotic" stage of kidney trouble. They claim that any case of continued blood pressure of 150 mm. mercury and over is a case of developing kidney trouble, and should be treated with that in mind. This is the stage in which the greatest good can be done the patient. No albumin and no casts may yet be found in the urine, also no arteriosclerotic blood vessels, but the arteriosclerosis is undoubtedly developing. The patients should have their mode of life, their exercise and habits and their diet looked after, with a view of keeping the blood pressure under control.

Dr. A. S. Kimball read an interesting paper on smallpox, outlining the history of the disease, its diagnosis and treatment. He reviewed the smallpox condition in Battle Creek during the past winter, and the quarantine regulations followed. He also exhibited a number of photographs of recent cases, showing the hemorrhagic form in one or two, and the confluent form in several patients.

Dr. Wilfrid Haughey, of Battle Creek, State Secretary, was present and spoke about the chiropractors' bill and about a dozen other bills at Lansing of direct interest to the medical profession.

The Academy was addressed on Monday evening, April, 10, 1911, by Dr. Winfield S. Hall, Professor of Physiology at the Northwestern University Medical School, Chicago. His subject was

The Relation of the Physician to the Teaching of Sexual Hygiene.

An uncorrected abstract is as follows:

The subject of "Physiology of the Male Sex-organs" has been greatly neglected even in medical schools. The special study of the subject was first incited by a number of medical students, who stated privately that they had courses in sexual pathology in both males and females, but no physiology. We as medical men have a duty with reference to the spread of this knowledge, because no other class of men have the necessary information as to physiology, hygiene and social subjects.

The movement began in New York about five years ago as the result of the activities of several ministers, sociologists and physicians. They first came to the unanimous conclusion that something was radically wrong in society, and that a very large percentage of social wrongs are due to sexual wrong living, or to sexual incompatibility. It has been estimated that 90% of divorces have been due to the latter. At this first meeting a society was formed for the propagation of sexual information, and this in turn has been the cause of hundreds of similar societies being formed in different parts of the country. It has also been the beginning of a frank discussion of the social evil, and of efforts toward its abolishment. The result has been a radical change of attitude from the public toward the consideration of this subject, so that now hundreds of mothers and teachers will gladly attend every opportunity to learn of this subject.

I believe that the local doctor owes something

in time and effort in the giving of this information, especially to clubs, societies and classes to which he belongs. A more delicate problem is in relation to work in public schools. All young men should get the information, but few parents are capable of giving it. Since a large enough number of young people cannot be reached through the clubs and societies, this information must be given in the public schools. It should most emphatically be given in all higher institutions, as colleges and normal schools, because these students go out either as teachers or influential citizens who are most important factors in society. Normal schools especially should give the information in such a manner that the students not only get the facts, but also get the pedagogical side, so they can impart it to others. This is especially important for teachers in grammar schools for girls, as it is while in the grammar schools that girls are adolescent. It is during this period of girlhood where one bad girl can do the most harm among her girl associates, by her evil associations with boys. The solution of this problem is to have a woman teacher who is properly prepared. We must therefore go into the normal schools.

In the high school it is the problem of the boys, as a bad girl rarely ever gets into the high school, and also that the boys are just at this period experiencing their adolescence. The spirit of chivalry comes to a boy at this age, and if not properly instructed, this spirit is apt to verge into the taking of liberties. Both boys and girls should be taught the significance of these apparently innocent advances.

From the view-point of pedagogy, we ask how shall these truths be given to such students? I believe that in this regard we should be very careful not to say things which are *suggestive* of evil, as was done on one occasion when the speaker, after a detailed account of the evils of gonorrhea, concluded his talk by saying, "At any rate, if you can't be good, be careful." This suggestion resulted in a few weeks in twelve cases of gonorrhea among his listeners, contracted while trying to "be careful."

The adolescent period is the heroic period of life. The youth has no sense of morality, and cannot be appealed to on this ground, but he is a worshipper of heroes, and especially heroes in battle or fighting. If, therefore, you select a fighter for your illustration, and especially one who is altruistic in his motives, you can appeal to the boy. All heroes have certain heroic manliness. Then give the secret of all manhood as the internal secretion of the testicles. "The sex glands form an internal secretion which gets into the blood and creates characteristics of manhood or womanhood." When the boy knows that his testicles are working for him twenty-four hours each day to make a man out of him, he is not likely to abuse them by masturbation. Show the difference between a eunuch and a strong, virile man by the differences between a stallion and a gelding.

Similarly, girls can be shown the beauty of face color, of long hair and well-developed form result from the activities of the ovaries. This saves the girl from masturbation, for she would not sacrifice feminine beauty.

For boys, explain about nocturnal emissions; that periodic, excessive desire for sexual things is due to the filling of the seminal vesicles, and that relief comes from their evacuation. If he knows this he can better stand off the temptation to seek intercourse with women, knowing that it will spontaneously right itself. Doctors owe this information to boys and young men as a matter not only of general needed knowledge, but also because it will prevent many of them going to quacks, where malpractice is often done as well as extortion of moneys.

The best method of teaching sex subjects, however, is what might be called the "biologic method," where the reproductive activities may be given with other life functions first in the lower animals or plants, and then gradually following this up through different species until man is reached, giving this not as a special topic, but weaving it in with other bodily functions. This takes so much time, however, that it is a failure for the public lecturer.

Discussion

Dr. E. J. Bernstein.—While giving a lecture recently on this subject, I was asked in good faith by several young men as to what constitutes the normal privileges of married life. I should like if Dr. Hall would help us to be better able to answer this question.

Dr. M. Chase.—I believe that teachers have the greatest opportunity in the world for spreading such information, greater even than ministers. The subject should be taught in the schools.

Dr. J. B. Jackson.—I should like to ask Dr. Hall if he has any plan whereby the work may be put into the public schools. Parents not only are not capable of teaching this subject, but they also frequently object to any one else teaching it.

Dr. B. L. Jones.—We are often asked, "If nocturnal emissions are natural, why is mastur-

bation not without harm?" I should be glad if Dr. Hall can shed some light on this inquiry.

Dr. Swift.—Would Dr. Hall include in such teaching a discussion of the venereal diseases?

Rabbi Thurman.—I should like to ask Dr. Hall, what, if any, is the value of the idealistic element in teaching sex hygiene?

Dr. Hall.—With reference to Dr. Bernstein's question, will say that the proper sexual relation of normal life is a very important one. This does not come in the discussion of the subject tonight, but is rather for medical students, theologians and sociologists. Gross excesses may be avoided by knowledge given.

Replying to Dr. Jackson, will say that we must first convince the parents. School officials will hesitate to give the work until parents are willing. This must be accomplished through public meetings as given by women's clubs, Y. M. C. A's, and church societies. Several largely circulated journals have had a very good influence to convince parents.

Dr. Jones brings up a very timely question. Explanation is made by saying that in nocturnal emissions nothing is expelled but the contents of the seminal vesicles, and these contain only a few spermatozoa, and these are usually worthless; while on the other hand, in the emission of a sexual intercourse or a masturbation, where all the psychical factors enter, there is expelled, in addition to the above fluids, many nascent spermatozoa.

The Rabbi has suggested what I believe to be the proper method of teaching this subject, i. e., by the use of idealism. This also answers Dr. Swift's question.

Regular meeting, April, 11, 1911. 1. "The Cause of Chicken Pox," Dr. Ben Webster, Tracy, Ind. 2. "The Diagnosis and Treatment of Mild, Atypical Graves' Disease," Dr. C. G. Jennings, Detroit.

Dr. Jennings having been unexpectedly called out of the State, was unable to be present. His number, however, was substituted for by Dr. D. J. Levy, of Kalamazoo, who spoke informally upon the subject,

Occurrence and Diagnosis of Tuberculosis in Children.

Abstract: Tuberculosis in Vienna is very widespread. According to some authorities it affects as high as 95% of children, but it is often symptomless except that the Von Pirquet is positive. No child exposed to open forms of tuberculosis escapes some form of the disease.

Hamburger's theory was as follows: If a healthy guinea pig is infected with tuberculous material, a local inflammation develops in ten or eleven days, and also the near-by lymphatic glands which drain this area become enlarged. If injection is done in one already infected with tuberculosis, a local reaction comes on much sooner, often in one to two days.

It is noteworthy that the lymph glands first affected are those nearest the infection focus. This is often noticed in children, where the bronchial lymph glands are affected on the same side of the thorax on which the tuberculous infection is located.

For the human body to react, a sensitization is needed; this may be from an old lesion.

Pulmonary tuberculosis is very unusual in childhood, but comes on more after ten or eleven years of age. Hamburger showed that 95% of children are infected in childhood, and later tuberculosis comes on one of these previously sensitized persons. He develops from this belief three stages for tuberculosis, which are similar in many ways to the stages recognized in syphilis.

The first stage is the local lesion; is of short duration and localized in lymph gland.

The second stage is distant from the local lesion; is of longer duration.

The third stage is represented in the pulmonary form.

As in syphilis also the old infection immunizes against a new infection. The antiformin method of staining for tubercle bacilli is the best.

SYMPTOMS AND DIAGNOSIS

The V. Pirquet reaction is the most reliable for children, and in Vienna has been found to occur in 95% of children under ten years of age. The ointment reaction is unnecessary and not so simple as the V. Pirquet. The Calmette reaction has no place in tuberculosis of children.

The cough of tuberculosis in children is characteristic, producing a high pitch tone with a "baying" quality. This is due to the narrowing of the bronchi from external pressure.

The tuberculides are important and characteristic, consisting of at first a reddish and later a brownish color, with scale in center of lesion from a central necrosis. They are rarely more than six to eight in number.

Phlectenulæ are often observed in older children.

Enlarged thoracic glands are often determined by palpating enlarged glands in the axillæ, which shows that the pleuræ are involved. Direct

percussion also will elicit dulness due to enlarged bronchial glands.

Percussion over the spines of the vertebræ is valuable. If glands are normal, a full resonance is obtained at the sixth dorsal spine. Dulness will be both felt and heard if glands are enlarged. This holds true even when the X-ray fails to show the presence of the focus.

Tuberculosis of children is a *hilus* infection, and not at the apex, as is common in adults.

In the treatment of obstinate constipation or vomiting it is well to think of a tuberculous meningitis as the possible cause.

Lumbar puncture should be used more than it is. The appearance, quantity and pressure of the fluid gives valuable information.

Discussion

Dr. A. S. Youngs.—I feel very grateful to Dr. Levy for this discussion, as it has given me many points which I have not been able to get elsewhere. In speaking about the long, silky eyelashes, I am reminded of an observation which I reported to this Society about three years ago in a dilated pupil as a sign of tuberculosis. I should like to ask Dr. Levy if this observation has been made in his recent studies.

Dr. A. W. Crane.—It has been demonstrated by means of the X-ray that adults also have a hilus infection, and this is confirmatory of the observation that it occurs so largely at the hilus in childhood.

I wish also to confirm Dr. Levy's statement that the antiformin method of staining for tubercle bacilli is the best. It not only has the power to dissolve tenacious parts of the sputum, but it also sterilizes the whole specimen, thus lessening the danger of infection from handling it.

Dr. Blanche N. Epler.—The State laboratory under Dr. M. L. Holm has often been able to find tubercle bacilli in sputum by the antiformin method, where it had been declared negative by other methods. I endorse it very highly.

Dr. Levy.—I have had neither experience nor information as to the dilated pupil in tuberculosis, but shall be glad to know about this sign.

The X-ray observations as to hilus tuberculosis in adults only confirms Hamburger's observations, as they are undoubtedly recurrences of those which appeared in childhood.

3. Dr. F. Y. Cronk's Paper, "The Diagnosis and Treatment of Exophthalmic Goiter." (Paper to appear in an early number.)

Discussion

Dr. R. E. Balch.—The term "exophthalmic goiter" is often erroneous, as it may show neither exophthalmus or goiter. This disease is following a course similar to that which was experienced by appendicitis, in that surgery was at first used only as a last resort but now is used as a first consideration. Goiter is now being considered even by the laymen as a condition for the employment of early surgery.

The danger of this operation was at first considered as very great, but is being lessened by better selection of cases and form of operation, until now it is no greater than that for hysterectomy for fibroid or many other similar procedures. The chief danger is that of injury to the recurrent laryngeal nerve or blood vessels. The danger of removing the parathyroids is practically nil.

Dr. Cronk.—In treating this condition it is important to insist on early recognition and operation before the symptoms are pronounced. Depend upon the tremor and rapid heart rather than the palpation of goiter or exophthalmus.

C. E. Boys, *Secretary.*

KENT

Although not heard from, Kent County has not entered a state of hibernation. On the contrary, it has, since the first of January, had a series of regular meetings that have been of exceeding interest and value. Thus far twenty new members have been elected, and the average attendance at our meetings has been eighty-two.

The following men have been the invited guests of the Society and have read papers:

"Surgery of the Kidney," Dr. Arthur Dean Bevan, Chicago, Ill.; "Diseases of the Antrum of Highmore," Dr. Otto T. Freer, Chicago, Ill.; "Discussion of Dr. Freer's Paper," Dr. Fleming Carrow, Detroit; "Uterine Carcinoma," Dr. Channing W. Barrett, Chicago, Ill.; "School Hygiene," Dr. Frank Allport, Chicago, Ill.; "Medical School Inspection," Dr. Guy L. Kiefer, Detroit; "Chorea Minor," Dr. Guy L. Connor, Detroit: "Infant Mortality," Dr. Francis Duffield, Detroit.

In addition to these essayists we have had several papers by our local members, and have also held two clinical meetings. Dr. Allport and Dr. Kiefer addressed a public meeting in our new High School auditorium.

The Society has always tendered our guests a six o'clock dinner. As many members as desired attended these dinners, and the attendance varied from twenty to forty-five. These social functions have presented the opportunity for

every member to meet the guests in a social way, and thus become more intimately acquainted with them.

In January a Smoker was given in the Peninsular Club. The expense of this smoker was defrayed by the profits derived from the publishing of our Bulletin.

Our Committee on Public Health was of material assistance in exposing the methods of a quack, self-styled "wonder doctor," and have secured the withdrawal of his ad in our daily papers.

From the above, one readily gleans that our Society has maintained its established prestige of having every meeting a live one, well attended, and of value to every member.

F. C. Warnshuis, *Secretary.*

MUSKEGON-OCEANA

Regular meeting of Muskegon-Oceana County Medical Society was held at the Occidental Hotel, Friday evening, February 3, 1911, after dinner at 6.30, the guests of Dr. W. P. Gamber. Members present: Drs. C. P. Donelson, R. G. Olson, A. A. Smith, W. L. Griffin, I. M. J. Hotvedt, W. P. Gamber, J. T. Cramer, Jacob Oosting, P. J. Sullivan, W. E. Dockry, F. B. Marshall, G. J. Hartman, Geo. S. Williams and V. A. Chapman. Drs. Burkhart, Ayling and Bigham as visitors.

Minutes of last meeting read and approved as read, excepting that Dr. Hotvedt was made chairman of the Committee on Public Meeting instead of Dr. Campbell, at Dr. Campbell's request. The Board of Directors reported favorably upon the application of Dr. G. H. Ayling. The Secretary was instructed to cast the entire vote of the Society for Dr. Ayling.

Dr. Marshall presented a clinical case. Dr. Earl Bigham, of Grand Rapids, read a paper upon "Extra Uterine Pregnancy." The discussion was opened by Dr. Vander Laan, followed by Drs. Hotvedt, Marshall, Griffin, Williams and Bigham. Owing to the lateness of the hour Dr. Gamber's paper, with discussion, was postponed one week to special meeting to be held at his office.

Meeting of Muskegon-Oceana County Medical Society held at the office of Dr. W. P. Gamber, Friday evening, February 10, 1911. Members present: Drs. G. H. Ayling, W. A Campbell, J. T. Cramer, C. P. Donelson, W. P. Gamber, G. J. Hartman, I. M. J. Hotvedt, R. G. Olson, Jacob Oosting, Lunette I. Powers, A. A. Smith, and G. S. Williams.

Dr. Gamber read a paper on "Asthenopia or Eyestrain, and Other Causes of Headache," from standpoint of the specialist and general practitioner. General discussion followed.

Regular meeting of Muskegon-Oceana County Medical Society was held at the residence of Dr. F. W. Garber, February 24, 1911. Members present: Drs. F. W. Garber, Geo. S. Williams, R. G. Olson, W. P. Gamber, C. P. Donelson, I. M. J. Hotvedt, Jacob Oosting, J. T. Cramer and G. H. Ayling.

Dr. Hotvedt reported that Committee on Public Meeting had corresponded with Dr. Shumway in regard to a paper, but no definite arrangement had been made.

Paper by Dr. W. F. Garber, "Sudden Death Following Surgical Procedures." The discussion was opened by Drs. Hotvedt, Gamber and Olson. Dr. Hotvedt moved that Dr. Garber's paper be published in the State Journal, seconded by Dr. Olson. Carried.

Regular meeting of Muskegon-Oceana County Medical Society held at the residence of Dr. R. G. Olson Friday evening, March 2, 1911. Members present: Drs. Geo. S. Williams, C. P. Donelson, A. A. Smith, Jacob Oosting, W. A. Campbell, J. T. Cramer, R. G. Olson, W. P. Gamber and V. A. Chapman. Minutes of last two meetings read and approved as read.

Report of committees: Dr. Campbell reported regarding progress of Committee on Public Meeting. Dr. Donelson reported progress of committee appointed to investigate the illegal practice of medicine by Raymond Wilson. The reports were accepted and committees continued.

Dr. Donelson suggested that we hold a meeting to which the wives and sweethearts of members shall be invited. The suggestion was favorably discussed. Dr. Olson read a paper upon "Forceps Delivery," which was generally discussed. Meeting adjourned. Luncheon followed.

Regular meeting of Muskegon-Oceana County Medical Society was held with Dr. J. F. Denslow at the Occidental Hotel, March 17, 1911. Meeting called to order by President at 8 P. M., following 6 o'clock banquet. Members present: Drs. J. F. Denslow, J. D. Buskirk, Geo. S. Williams, G. J. Hartman, Jacob Oosting, J. T. Cramer, C. F. Smith, L. W. Keyes, F. B. Marshall, W. A. Campbell, L. N. Eames, L. I. Powers, G. H. Ayling, I. M. J. Hotvedt, W. L. Griffin, V. A. Chapman, P. A. Quick, C. P. Donelson and A. A. Smith. Visitors, Dr. Schuyler C. Graves

of Grand Rapids, Dr. Wilfrid Haughey, and the Hon. J. C. McLaughlin.

The regular order of business was suspended, and Dr. Schuyler C. Graves read the paper of the evening entitled, "Two Types of Gastric Surgery with Specimen Exhibit and Comments." The discussion was opened by I. M. J. Hotvedt, and was followed by several others. Dr. Wilfrid Haughey, Secretary of the Michigan State Medical Society, gave a talk concerning State Society and County Society matters. Hon. J. C. McLaughlin followed with some remarks regarding medical legislation.

The report of the committee appointed to confer with the charter commission of the city was made by Dr. Geo. S. Williams. The report of the Committee on Public Meeting was given by Dr. Hotvedt. It was moved by Dr. Hotvedt, seconded by Dr. Donelson, that the Secretary be instructed to see the local coroner, with the object of procuring more autopsies.

It was moved by Dr. Donelson, seconded by Dr. Hotvedt, that the Society send flowers to Dr. Jackson by committee of three, expressing our sympathy with him in his sickness. Carried. The chair appointed as this committee Drs. Oosting, Campbell and Williams. Dr. Buskirk moved, Dr. Griffin seconded, that the Secretary be instructed to write to Dr. Hatch expressing our sympathy with him in his illness. Carried. The Society extended a unanimous vote of thanks to Dr. Denslow.

Regular meeting of Muskegon-Oceana County Medical Society held at the residence of Dr. Geo. S. Williams, Friday evening, April 14, 1911. Members present: Drs. C. P. Donelson, J. F. Denslow, J. T. Cramer, W. P. Gamber, F. B. Marshall, G. J. Hartman, W. A. Campbell, L. N. Eames, L. I. Powers, A. A. Smith, P. A. Quick, Geo. S. Williams and V. A. Chapman. Dr. Bussard as visitor. Minutes of last meeting read and approved.

Report of committee regarding the illegal practice of medicine by Raymond Wilson was made by Drs. Marshall and Donelson. Communication read from Dr. Buskirk, stating that Dr. Nicholson and himself wished to hold a meeting conjointly at Hart, to which the physicians of Mason County would be invited. This arrangement met with the unanimous approval of the Society.

Dr. Williams gave a talk on "Personal Hygiene." Dr. Donelson opened the discussion, followed by Drs. Campbell, Eames and Williams. Adjournment to the dining-room to luncheon.

V. A. Chapman, *Secretary.*

WASHTENAW

Report of Necrological Committee of Washtenaw County Medical Society in Regular Session March 22, 1911

DR. JOHN KAPP

Dr. John Kapp was born in the township of Northfield, Washtenaw County, Michigan, July 31, 1841. He was the son of Christian F. and Regina (Schlichter) Kapp, both of whom were born in Wurtemburg, Germany, and came to America in the years 1835–36. They met and were married in Philadelphia, Pennsylvania; soon afterwards moved to Washtenaw County, Michigan, where Mr. Kapp became a successful farmer and stock raiser.

Doctor Kapp passed his boyhood days on his father's farm, attending the district school and later the union school in Ann Arbor. Afterwards he taught school for some years. Having set his heart on a medical career, during his teaching school he took up a course of study, after which he entered the University of Michigan, graduating from the Department of Medicine and Surgery in 1868. In 1869 he graduated in Dental Surgery in Cincinnati, Ohio. He practised medicine in Benton Harbor, Michigan, for a short time, then began practising in Ann Arbor.

He was married July 3, 1869, to Anna, daughter of Mr. and Mrs. George Pitt, of St. Louis, Michigan. Four children blessed this union, two of whom are living: Dr. Leander P. Kapp, of Los Angeles, California, and Ruth Adelaide Kapp. Rose and Georgiana both died in infancy.

Dr. Kapp held various civic offices and positions of trust. He was township clerk of Northfield while living at his father's home there. He was a member of the Board of Health in Ann Arbor for several years; was mayor of the City of Ann Arbor in the year 1880, 1881, 1882 and 1885. He was a member of the U. S. Examining Board for Pensions from 1885 to 1897. He was a member of the American Medical Association, the State Medical Society, and member of the Washtenaw County Society and Medical Club. He was a member of the Golden Rule Lodge No. 59, F. & A. M. He was also a member of the Washtenaw Chapter No. 6 R. A. M., and of the Ann Arbor Commandery No. 13 K. T.

He practised medicine until 1907, when his health failed and he went to Los Angeles in

California, where he was somewhat better. He came to visit Ann Arbor in 1909, and returned to Los Angeles, where he died January 17, 1911. Funeral services were held in Los Angeles, and at his old home on Main Street in this city, under the care of his Masonic brethren, January 25th.

Dr. Kapp kept up an active interest in medicine during his active life, and had many friends in the profession.

Personally Dr. Kapp was of a jovial and generous disposition, and a staunch, unselfish friend, who made sacrifices of time, comfort and convenience to render service to his friends. I remember an answer he usually gave to a request. If asked if he had time to see a patient or some like service, the answer, "I'll make time," was characteristic of his willingness to assist a brother practitioner. Many a time I have ridden with him, on returning from a country trip in the night, when he would sleep by the mile, and wake when his horses stopped or slowed from the rapid gait he drove. When in his prime he had a large and lucrative practice, and gave himself in unstinted measure to the care of his patients, day or night, who, it is but scant truth to say, returned his service with deserving confidence. Dr. Kapp began the practice of medicine in an age and generation fast passing away,—when professional work was more laborious, before the days of telephones and automobiles, when the general practitioner was expected to do all the work now divided among half a dozen specialists. Beginning before Virchow's "cellular pathology" had been generally accepted, before the days of antitoxins, of serum therapy, his career covered a period of over forty years of the greatest activity and development in the history of medical science. The toxin of diphtheria, tuberculosis, typhoid and rabies and spirochaeta pallida have all been discovered since, and become amenable to preventative or curative measures. The span of human life has been lengthened.

Those of us who have lived in the age of the great Civil War and the events following used to think that we had lived in the greatest epoch of our country's history, but that struggle cost hundreds of thousands of lives. This age in medicine conserves life and adds hundreds of thousands to the race. "Peace hath her victories, not less renowned than war." And now as we look back over the years of association with our friend and professional brother, we think of him only with a feeling of kindly remembrance of the good qualities of mind and heart, and are reminded that the best time to express our kindly thoughts of our friends is while they live to enjoy it.

And the Society in adopting this memorial desires to record its tribute to his many estimable qualities as a man and physician.

J. A. WESSINGER, *Secretary.*

WAYNE

At the surgical section meeting held Monday, March 13, 1911, Dr. P. M. Hickey read a paper on

Fractures of the Elbow Joint.

The paper presented by Dr. Hickey was based on the observations of seventy-five fractures of the elbow. Of these forty-five were fractures of the lower end of the humerus, eighteen were fractures of the ulna, and twelve were fractures of the radius.

The conclusions which the writer of the paper drew from these cases were as follows:

1st. The accurate diagnosis of injuries to the elbow presents great difficulties which can best be overcome by the aid of the Roentgen Ray.

2nd. The Roentgen Ray differentiates between those injuries in which the elbow joint can be safely immobilized and those in which passive motion should be instituted early.

3rd. Where great pain is present, and no deformity exists, and crepitus can not be elicited, fracture of the end of the radius should always be suspected.

4th. Supra-condyloid fractures of the humerus should never be immobilized in the position of pronation without due consideration.

In no branch of surgery has so little progress been made as in the treatment of fractures. Each case should be individually studied and not treated in a routine manner.

About fifty slides were presented, the first series of which showed supra-condyloid fractures. These were followed by a series showing the bad results after immobilization in the position of pronation.

The next series of slides illustrated the various positions of the arm, in the reduction and immobilization of supra-condyloid fractures.

Roentgenograms of fractures of the external condyles were next shown. In the writer's experience epiphyseal separations are quite uncommon. Fractures of the olecranon were next shown, and also the different varieties of fractures of the head of the radius.

An important diagnostic point in fracture of the head of the radius is the exquisite tenderness which is present on manipulation and movement

Several slides of dislocation of the elbow with attendant fracture were also demonstrated. The writer called attention to the dislocation of the radius which occurs when the ulna is fractured with deformity.

The discussion was opened by Dr. Chene, and followed by Drs. F. B. Walker, Brooks, McGraw, Blodgett, Tibbals, Kidner and Garner.

At the general meeting of the Wayne County Medical Society held Monday evening, March 20 the subject was "Salvarsan." In the symposium on this subject Drs. Biddle, Owen and Varney took part.

Indications and Contra-Indications, by A. P Biddle. For full text of this paper see page 211.

The Wassermann Reaction in Relation to Salvarsan,

by R. G. Owen.

Abstract: The figures regarding the percentage of cases treated with "606" in which a negative Wassermann Reaction is obtained are very discordant.

Thus Hoppe and Schreiber have reported 84 per cent. made negative in 50 days, and this increased to 92.3 per cent. when the period of observation was extended to 90 days.

Other men, as Isaacs, have obtained only two negatives out of twenty-seven cases, though all showed clinical improvement.

Certainly Ehrlich's idea of therapia sterilizans magna has not been attained by the use of the doses so far advocated in America, namely 0.3g to 0.6g.

Geronne found that among the cases still positive after one injection 78 per cent. became negative after a second one.

It is practically conceded now that in most cases we must either increase the initial dose of "606" or else give repeated small doses.

Thus Neisser now gives three intravenous injections of 0.6g. at 3-4 day intervals, follows with an intra-muscular injection, and at the same time applies vigorous mercurial treatment.

What does a negative Wassermann signify?

First make sure that the reaction remains permanently negative. Many cases show a transient negative phase, later becoming positive, some with fresh symptoms, some without.

The first class, of course, calls for renewed treatment.

What to do with the second we cannot say as yet, owing to the limited time of our observations, but cases free from symptoms whose Wassermann remains positive more than four to six weeks should certainly receive more treatment. Perhaps in the light of further observations this may be shown unnecessary, but at present we cannot afford to allow the spirochaetal army to marshal anew its cohorts.

How long should we have a persistent negative Wassermann before pronouncing the case complete? Again we must answer, only the future can tell. Corbus of Chicago says 1½ years. Others advocate three to five years.

Summary

The persistence or disappearance of the Wassermann is our only therapeutic guide at present in cases free from symptoms.

A negative Wassermann should be attained, whatever the kind and amount of treatment necessary.

The negative reaction must remain so over a period of several years.

Whether this persistent negative reaction means a complete cure only time can tell.

Salvarsan: The Technique of its Administration and the Clinical Results,

by H. R. Varney.

Abstract: A detailed description of the mode of preparation was given, emphasizing the following points:

Simplification of its preparation, necessity of its being freshly prepared in an absolutely aseptic manner and of having a fine suspension as neutral in reaction as possible.

The methods of administration were given, fully comparing the value of each with the others. These methods are—subcutaneous, intramuscular and intravenous. With regard to clinical results these three methods do not give strikingly different results, but the elimination is much more rapid after intravenous injection, while after intramuscular injection the effect is prolonged for several weeks.

The location for subcutaneous injection is interscapular and should be given deeply in the subcutaneous tissue. However, the drug gives a great deal of pain from distention, and may become encapsulated. Pain is controlled by cold or anodynes if necessary.

Intramuscular injections are given in the upper outer quadrant of the buttock after surgical preparation of the skin, injecting very slowly well into the belly of the muscle, massaging afterward to assist absorption. The dose should be diluted to 30 c. c. with distilled water, giving 15 c. c. in each buttock, changing the direction of the needle at least twice during each injection. This method

is also painful, but gives the best results for certain cases.

In the intravenous method the dose should be diluted to 250 c. c., rendered neutral and filtered clear. The apparatus used is operated by gravity, the injection being preceded and followed by saline; at least from ten to twenty minutes being required to inject the dose into the vein.

All skin manifestations are accentuated in from twelve to twenty-four hours after injections, especially the secondary rash, which becomes almost urticarial. This is known as Herxheimer's Sign, and is due to a sudden liberation of an enormous quantity of endotoxins in the blood.

Recurrences have been numerous in the cases first treated on account of insufficient dosage, a return of the disease being noted in 18 per cent. of cases in from four weeks to two months after injection. In a number of these cases the dose was repeated, the effect being even more prompt than with the first dose, a much more permanent result being obtained.

In all cases in which the drug can reach the treponemata the organism is killed, but in many cases the spirochaetes are so encapsulated that foci of infection remain and cause recurrences. In infants dying of intercurrent affections after receiving salvarsan no living organisms were found, though many dead and distorted ones were found in the liver and lungs. Absolute cure has been demonstrated by Neisser, who was able to reinoculate apes one month after injection of salvarsan. A Wassermann Reaction is a necessity before any kind of treatment as well as afterward, and no cases were treated unless the test had been made previously and at least every two weeks after injection.

All the cases in the series were in the secondary and tertiary stages, comprising condylomata, circulatory lesions, eye disturbances, ostitis and periostitis, pulmonary involvement as well as parasyphilitic diseases.

These papers were discussed by Drs. Wollenberg, Jamieson, Hoyt, Yates, W. A. Potter and Hickey.

The Medical Section of the Wayne County Medical Society met March 27th, and the evening was given to the exhibition of clinic cases and specimens.

Dr. H. W. Longyear reported a very interesting case of intestinal cysts in a child, showing the cardinal symptoms of appendicitis. In searching for the appendix a tumor was discovered in the middle of the abdomen near the umbilicus. It was rough, and felt and looked like spleen. It was made up of numerous cysts, like kernels of corn, involving about two-thirds the circumference of the bowel. The intestine and mesentery appeared normal. Incision of one of the cysts showed clear mucus. No adhesions were present, and since it was thought benign in character and removal would mean extirpation of a piece of gut, it was not disturbed.

The appendix was found to be acutely inflamed and removed, and recovery rapidly ensued.

Attention was called to the very meagre literature on the subject, and Dr. Longyear believed the condition congenital.

The doctor also reported a very interesting case of cyst of the broad ligament, perhaps dermoid in character, containing three sacs and adherent to the posterior peritoneal wall.

In the absence of Dr. Dowling, Dr. E. W. Mooney read a history and exhibited a patient from the clinic of Dr. Donald, showing obstruction to the venous flow of blood by pressure of tubercular glands on the left inominate vein.

The varicosities were more pronounced on the left side of the abdomen, running as high as the costal margin in front and laterally to the axilla. Pulsation was visible along the course of the subclavian artery on both sides. There was enlargement of the posterior cervical glands. The Moro test gave a negative result. Discussed by Drs. Donald and Freund.

Dr. E. W. Mooney reported from the clinic of Dr. Donald, and showed a radiograph of a case of esophageal stenosis, with dilatation very likely of a malignant nature, in an individual forty-one years of age, with the usual symptoms of this disease. This condition perhaps followed an ulcer of the cardia of some few years ago.

The patient had lost thirty-three pounds in ninety days, and the blood count showed a secondary anemia. The doctor pointed out the danger of passing sounds for diagnostic purposes, and believed that the X-ray gave the most authentic information.

Discussed by Drs. Donald, Garner, Willis, Potter, Freund and Buesser.

Dr. H. M. Rich was unable to have his patient before the Society, and spoke about pulmonary tuberculosis in children. Very few children present the typical symptoms and physical signs of this disease, and more reliance should be placed upon the history of the individual as well as of the family. Whooping cough and measles are fairly constant factors in the way of predisposition. In the doctor's opinion a diagnosis

of pulmonary tuberculosis in children is not possible by physical diagnosis alone.

The Von Pirquet test for diagnostic purposes appears to be the reaction of choice except in cases closely following measles, in which disease it also gives a positive reaction.

Dr. A. W. Ives was unable to be present, and his case was not reported.

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The general meeting of the Wayne County Medical Society took place Monday, April 3. Instead of reading a formal paper, Dr. Wm. F. Metcalf spoke of differential diagnosis by reporting a case of cancer of the stomach, one of chronic gastric ulcer, one of ulcer of the duodenum, one of cholelithiasis, one of acute appendicitis, one of chronic appendicitis, and two cases of partial obstruction of the colon by kinking. In all these cases the symptoms pointed to the upper abdomen and were remarkably similar.

The main object of the reports was to show the great value of a carefully written history in making a differential diagnosis in surgical affections of the gall-bladder, stomach and appendix and colon.

He said that surgeons, by having opportunity to examine so frequently all intra-abdominal organs, often discover organic diseases in their incipiency, and are continuously writing for the profession a new symptomatology that will make possible earlier diagnosis.

He recommends that the surgeon write his diagnosis and prognosis is every case before the abdomen is opened, and that after operation one of his assistants write a description of the conditions found. A chart of comparison could then be made from year to year showing the growth of the operator as a diagnostician.

He said that nearly all cases of cancer of the stomach that had been referred to him were too far advanced for operation, that many lives would be saved if all cases of gastric ulcer were diagnosed early, and if they did not respond to ordinary medical treatment were referred to the surgeon, since it has been demonstrated beyond question that more than fifty per cent. of the cancers of the stomach are engrafted upon chronic ulcers.

It is not necessary to wait for the elevation of temperature and increase of pulse-rate to positively make a diagnosis of appendicitis.

Many lives were lost by the attending physician waiting for all the classic signs and symptoms. The classic signs and symptoms too often are signs and symptoms of complications of the disease in question, as hemorrhage, perforation or peritonitis. These should not often be permitted to arise.

In the discussion of this subject and of these cases Drs. Wm. A. Spitzley, Hugo A. Freund and Angus McLean took part.

The following doctors were admitted into the Society. As active members: W. A. Wilson, C. A. Fisher, H. J. Van Loon, C. H. Stiles, Hugh Mulheron, Minnie E. Dawson, Phillip O. Froude, J. T. Hubel, J. H. Slevin, G. F. Lavin, R. H. Carmichael, H. O. McMahon, W. M. Pfeiffer, J. W. Ames, H. H. Ells, J. N. Garber, O. H. Arndt, C. L. Crittenden, J. H. Hanson, Jos. Shellfish, W. J. Reid, E. J. Weitenberner and W. E. Scriber.

As associate members: F. E. Moulder and T. B. Aldrich.

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OUR LIBRARY

The growth of our library during the short period of its existence has been enormous. It won't be long before the space in the building set aside for library purposes will be over-filled. Only recently the following donations to the library, for which the last general meeting offered a unanimous vote of thanks, were received: sixty-one bound volumes and unbound files from Dr. David Inglis; four bound volumes and unbound files from Dr. T. B. Cooley; 788 bound volumes and unbound files from Parke, Davis & Co.; 1768 bound volumes and unbound files from Dr. Leartus Connor; twenty-five bound volumes from Dr. E. B. Smith; unbound files from Dr. E. L. Shurly; eight bound volumes from Dr. E. W. Haass; six bound volumes from Dr. W. H. Hutchings; three bound volumes from Dr. W. H. Morley; 248 bound volumes from Dr. C. G. Jennings; five bound volumes from Dr. A. P. Biddle; unbound files from Dr. R. S. Rowland; unbound files from Dr. Anna O'Dell; unbound files from Dr. Chas. W. Hitchcock, and Dr. Emil Beck's book on "Bismuth Paste" from the author.

The following gifts to the house were also received: four pictures from Parke, Davis & Co.; five pictures from Dr. Leartus Connor; one picture from Dr. David Inglis; a brass clock from the Detroit Medical Club, and a hand-painted punch bowl from Mrs. John Bennett and son.

MEETINGS HELD AT THE HOME

On Tuesday, March 14, 1911, the Academy of Medicine met. Professor Barrett, clinical professor of nervous diseases and medical director of the Psychopathic Hospital of Ann Arbor, read a

paper on "The Problem of the Prevention of Insanity."

On Wednesday, March 15, 1911, the Board of Directors of the Society for Sex Hygiene met The object of this meeting was to plan a large citizens meeting, to be held in the near future, for the purpose of considering the proposition of the control of venereal diseases by reporting same to the health department; also, if such came to pass, for the purpose of impressing upon the citizens of Detroit the absolute necessity of having a hospital for venereal diseases.

On Saturday, March 18, 1911, the Society of Resident Physicians of St. Mary's Hospital met. Dr. M. A. Fechheimer reported a case of acute urethritis with numerous complications. Dr. C. M. Stafford reported a case of persistent sinusitis due to a mold, "the aspergillus flavus." Dr. W. A. Potter read a paper on "Facial Paralysis."

On Wednesday, March 22, 1911, the formal opening of the Wayne County Medical Society Home took place. The opening was in the form of a reception given by the President and ex-presidents of the Society to members, their ladies and invited guests. This function was well attended by doctors and other prominent citizens, and it proved that the laity too is beginning to take an active interest in things pertaining to the medical profession.

On Thursday, March 23, 1911, the Blackwell Society met. The subject was the treatment of a "Cold." The discussion of this subject was general.

On Thursday, March 23, 1911, the Detroit Medical Club met. Dr. W. M. Donald read a paper on "The Therapeutics of the Glandular Extracts."

On Saturday, March 25, 1911, the Interne Society of Harper Hospital met. Dr. G. E. Potter read a paper on "Perforative Gastric Ulcer."

On Wednesday, March 29, 1911, the Wayne County Graduate Nurses Society met. At this meeting Miss McIsaacs of the Illinois Training School gave an address on State Registration

On Monday, April 3, the annual meeting of the Nurses Central Directory of the Wayne County Graduate Nurses Association took place. According to the reports, there was during the last year a great increase in the interest shown as well as in the number of members. The number of applications received was 118 as compared with 28 reported at the annual meeting in 1910.

On Thursday, April 6, the Oto-Neurological Society met. The reports of cases were as follows: 1, Mastoiditis exhibiting mental symptoms by Emil Amberg. 2, A case resembling Alzheimer's disease, by Albert M. Barrett. 3, Acute Internal Hydrocephalus due to Obstruction from Brain Tumor, by Carl D. Camp. Dr. Johann Flintermann read a paper on "Multiple Sclerosis," with the report of a case, and Dr. Chas. W. Hitchcock one on the "Pituitary Body."

R. C. Andries, *Correspondent.*

NEWS

Dr. R. E. Mercer, of Detroit has gone to Europe.

Dr. H. E. Randall, of Flint, has gone to Europe for three or four months.

Dr. Collins H. Johnston, of Grand Rapids, has gone to Europe for a two and a half months' stay.

Dr. C. H. Oakman, of Detroit, has been appointed a member of the Detroit Board of Health.

Dr. David Inglis announces the removal of his offices to the Shurley Building, 32 Adams Avenue West.

Born to Dr. and Mrs. W. J. Stapleton, of Detroit, in December, a son, David William.

Dr. Robert L. Dixon, University of Michigan, 1910, has been appointed Secretary of the State Board of Health. He has had charge of the pathological laboratory of the University for the past year, and been instructor in Pathology.

President Taft has appointed the following Michigan physicians to the Medical Reserve Corps of the Army, to rank as first lieutenants from April 10: Max Ballin, Arthur D. Holmes, Guy L. Connor, Louis J. Hirschman, William E. Keane, George E. McKean, William A. Spitzley, H. R. Varney, and J. Walter Vaughan, all of Detroit.

At the thirteenth annual meeting of the American Proctologic Society the following papers will be presented by Michigan men: "Treatment of Rectal Diseases by Ambulant Methods," Wm. L. Dickinson, Saginaw. Symposium on Constipation: (f) "Psychotherapy, Mechanical, Electrical Treatment and Massage," J. A. MacMillan, Detroit. (h) "Surgical Treatment," L. J. Hirschman, Detroit.

BOOK NOTICES

Differential Diagnosis. Presented through an analysis of 383 cases. By Richard C. Cabot, M. D., Assistant Professor of Clinical Medicine, Harvard Medical School. Octavo of 753 pages, illustrated. Philadelphia and London: W. B. Sanders Company, 1911. Cloth, $5.50 net.

This is the most truly a book on differential diagnosis we know of. There are chapters on. General Considerations on Pain, Headache, Lumbar Pain, General Abdominal Pain, Epigastric Pain, Right Hypochondriac Pain, Pain in Left Hypochondrium, Right Iliac Pain, Left Iliac Pain, Axillary Pain, Pain in the Arms, Pain in the Legs and Feet, Fevers, Chills, Coma, Convulsions, Weakness, Cough, Vomiting, Hematuria, Dyspnea, Jaundice and Nervousness.

In studying up a diagnosis with this book one selects the predominant symptom of which his patient complains and refers to the corresponding chapter. The chapter opens with one or several pages of general consideration of a diagnostic nature, followed by several case reports. There are 383 case reports in the book. These cases, from the Massachusetts General Hospital largely, bear directly upon the subject of the chapter. First is a short, clear statement of the history and examination of the patient, with a statement of the symptoms. Second, follows a discussion of the case pointing out the conditions which must be differentiated, and showing why it is not one thing and is another. Third, comes the outcome of this case, and fourth, the diagnosis. At the end of each chapter is a table of the various conditions with the same predominant symptom, giving the differential diagnosis.

We unreservedly commend this work as a most thoroughly practical text on differential diagnosis for the general practitioner.

A Text-Book of Gynecological Surgery by Comyns Berkeley, B. A., M. D., and Victor Bonney, M. D. Large octavo, cloth; 392 black and white illustrations, and sixteen colored plates. Price $5 net; by mail, $5.25. Funk & Wagnalls Company, New York.

Books reflect the characteristics, both personal and national, of the men who write them. This book reflects to a marked degree the national characteristics of gynecologic surgery as practised in England to-day, and is therefore doubly interesting to American surgeons, who will notice the mannerisms principally in technic, the disposition and duties of assistants, the choice of instruments, material, sutures, etc., all of which give a decided national tone and temper to the subject.

Few American surgeons would, the reviewer believes, choose to bury non-absorbable sutures in closing the abdominal incision. These authors recommend No. 2 silk for closing the peritoneum and No. 4 silk for closing the fascia, and they bury these sutures. This is a decided tribute to the extent that asepsis and disinfection of material, patient, operator and assistants are carried by English operators.

A feature of the work is the large number of pen-sketches by Dr. Bonney. These make each step of the operations so plain and clear that no one studying them should fail to get in his mind a good working idea of how it is done.

It is, however, on the subject of Cæsarean Section that the reviewer believes the flame of inspirative genius burns highest. In the short space of a dozen pages appears the best exposition and illustration of this life-saving operation, which for the past decade has increased so rapidly in professional favor, that has yet come to the reviewer's attention.

The book is valuable and shows clearly the technic as practised by these two eminent English surgeons.

New and Non-official Remedies, 1911. Containing descriptions of articles which have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association, prior to Jan. 1, 1911. Price, paper, 25 cents; cloth, 50 cents. Pp. 282.

This is the 1911 edition of the annual "New and Non-official Remedies," issued by the Council on Pharmacy and Chemistry of the American Medical Association, and contains descriptions of all articles approved by the Council, up to December 31, 1910. There are also descriptions of a number of unofficial non-proprietary articles which the Council deemed of value. The action, dosage, uses and tests of identity, purity and strength of articles are given.

In the arrangement and the scope of individual descriptions, the present edition does not differ widely from the 1910 edition, but it contains about twenty-five additional pages, these being required to describe the articles accepted by the Council during 1910.

Besides indicating to physicians the proprietary articles which the Council's examination has found to be honestly marketed, and containing accurate descriptions of these articles, all similar articles are arranged under group headings; thus the physician at a glance can learn that atoxyl and soamin are practically identical articles, and that arsacetin is a closely related body. Again, the several proprietary solutions of the blood-pressure-raising principle of the suprarenal gland

are listed under a general title "epinephrin," and the manner in which the solutions differ from each other can be learned at a glance. In the same way, the medicinal foods are brought together and their relative value compared.

International Clinics, a quarterly of illustrated clinical lectures and especially prepared articles on Treatment, Medicine, Surgery, etc., by the leading members of the medical profession throughout the world. Edited by Henry W. Cattell, A. M., M. D. Volume I, twenty-first series, 1911. Philadelphia and London: J. B. Lippincott Co., 1911. $2 net.

This volume contains an excellent article, well illustrated, on pellagra, showing its wide distribution in the United States, and accounting for over seven thousand cases. Dr. Wechselmann, of the Vircho Hospital, Berlin, gives a further contribution to treatment with salvarsan (606). He reports cases and gives in detail his method of procedure. Dr. Jump, of Philadelphia General Hospital, has an interesting article on the "Value of Blood Pressure in Internal Medicine." Poliomyelitis is discussed by Doctors Mills and Neff.

Zentmayer has contributed a very instructive article on "Refraction by the General Practitioner," which will be valuable to us in Michigan, since we are doing this work.

This volume maintains the same high standard of the series, and is well worth subscribing for, taking up the better work in the various fields of medicine as it does, and presenting this work from the pen of a master.

Progressive Medicine, Volume 1, March, 1911. A quarterly digest of advances, discoveries and improvements in the medical and surgical sciences. Edited by Hobart Amory Hare, M. D. Octavo, 355 pages, with 18 engravings. Per annum, in four paper-bound volumes containing over twelve hundred pages. $6 net; in cloth, $9 net. Lea & Febiger, publishers, Philadelphia and New York.

This book takes up the advances reported during the year in the various fields of medicine and surgery, and gives abstracts of the papers reporting these advances. The operation for removal of the hypophysis is given in detail with illustrations.

This volume covers the departments of Surgery of the Head and Neck, Infectious Diseases, Diseases of Children, Rhinology, Laryngology and Otology. The new instruments and method of direct intubation devised by Mosher are illustrated and described.

Litora Aliena, from the "Boston Medical and Surgical Journal." Octavo, seventy-eight pages. Price, 50 cents. W. M. Leonard, publisher, Boston, Mass.

This is seventy-eight pages of most delightful reading. The author, who signs himself "Medicus Peregrinus," is a master of letter-writing and a shrewd observer. He discusses sea-sickness on his trip going, for the reason that a true physician cannot help thinking along medical channels. He visits Canterbury, "Many-towered Camelot," and "old Caerleon upon Ursk," besides various medical centers.

The Practical Medicine Series. Comprising ten volumes of the year's progress in medicine and surgery, edited by Gustavus P. Head, M. D., and Charles L. Mix A. M., M. D., Chicago, The Yearbook Publishers. Volume I, General Medicine. Edited by Frank Billings, M. D., and J. H. Salisbury, M. D. $1.50 net, Series, $10

Volume I of Practical Medical Series for 1911, on General Medicine, by Billings and Salisbury, in every way maintains the record established by the authors of this series in former years, the object being to give in condensed form, stripped of all argument and discussion, the advance work on medical and surgical subjects during the year.

This volume is devoted to general medicine, and gives the year's advance not only in the experience of the authors, but from all others doing advance work from whom reports have been obtained.

In the study of tuberculosis much knowledge of the condition in the lungs at various stages has been obtained by means of the X-ray. Some of these are described and conclusions drawn.

Relative values of the different stains for preparing the bacillus are considered. Tuberculin tests are commented on and cautions sounded.

Co-operation on the part of the patient and the advantage of intelligent sanatorium treatment are given as almost necessary adjuncts in the successful handling of this disease.

The Wassermann test is indorsed, and a good description of its technique is given.

The influence of the ductless glands on sugar metabolism is discussed. It would seem that this may prove to be fruitful if well cultivated.

The possessor of this volume can obtain from its pages, in concise form, much of the advance of general medicine during the year of 1910.

OWEN BILL "S. 1."

The first bill introduced in the United States Senate during the special session was by Senator Robert L. Owen of Oklahoma, and aims to establish a Department of Public Health. This bill is minus all the features of his former bill to which objection was taken, but will undoubtedly be opposed by the "American League for Medical Freedom." It is hopeful that all medical men and their friends interested in having the government do in a small measure for man what it does for hogs, will write their congressmen and senators supporting the principles of this measure.

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ORIGINAL ARTICLES

HOSPITAL CONSTRUCTION WITH A VIEW TO ECONOMY IN MAINTENANCE*

J. NEWELL HOLCOMB, M. D.
Grand Rapids, Mich.

An article of the nature suggested is perhaps remote from the purposes of study of a strictly medical society. Yet our patients require hospital facilities and adequate conveniences within range of their finances. Further, it would appear, from a cursory review of the advisory and active managing boards of hospitals, that they are, in the main, made up of people actuated purely by philanthropic motives and ofttimes not aware of the actual demands. The many and frequent expensive changes, the inconvenience, the useless expenditure of energy, the practical impossibility of economical administration, and finally the early condemnation of buildings as unfit or unsuited for hospital needs, apparently indicate that either the advisory board or architect was at fault.

Perhaps we as physicians are negligent in our stand, or because of lack of qualifications permit positions to revert to laymen which logically by virtue of our interest in the physical welfare of the community at large should be controlled by medical men. It is because of this possible lack of knowledge of what are essentials in hospital construction that I desire to present a very hasty review of some points which have occurred to me.

I have no desire to become too technical, nor do I desire to discuss possibilities with unlimited funds; simply those essentials in primary cost which concern cost of maintenance and therefore ultimate per capita cost, be this to state, municipality or individual.

The site is a matter of prime importance, and should possess the property of high, well-drained land of adequate area as can be subsequently added to as required and without excessive cost. Choose pure air, and under certain conditions pure and abundant water supply, and much progress has been made toward ideal conditions.

A practical building rule in cities calls for alignment with points of compass. Ideal plans call for that alignment which gives all portions of a building sunshine some time during the day. In first case, let wards run north and south, is reply of ninety out of one hundred hospital superintendents.

Having chosen site, and having in mind the number of beds, our cost of building

*Read before the Kent County Medical Society, November 26, 1910.

refinements necessarily depends upon circumstances. The cost of building thirty-five hospitals in this country represents $70 to $4,000 per bed, averaging $1600. Whether the building be a gift, state or municipal, the same rigid economy with reference to possible future use should apply.

It is conceded at present that a practically fireproof building can be constructed at but small increase in cost over any other construction. And in view of such, disregarding insurance saved, disregarding everything but the flash of terror which must overwhelm you when your helpless patients are in actual imminent danger of fire, would it seem out of place that this body vitally interested should be placed on record as requesting legal enactment that no building should be erected or rebuilt for hospital purposes, or be used for hospital purposes, be patients sane or insane, excepting it be fireproof?

Under the caption of construction of the building, I do not consider quarters for the nurses or employees, for it would seem consensus of opinion demands that they be at least housed independent of hospital building.

Centralization is the keynote of economy, and that increases in a very definite ratio with the number cared for. Without doubt the unit system is the proper one, be this city or suburb, and best serves idea of centralization. For general purposes the L. T. E. or modified H. construction is best, —each successive type being an advance or extension of the previous as to capacity, and presents the best, without doubt, opportunities for future expansion at minimum cost. The arrangement similar to that of the hub of a wheel and its spokes may have certain advantages where land is of no great value, and under certain conditions, but it would seem an entirely uncalled-for distribution. As to the "sky-scraper" type, like the new Jefferson Hospital at Philadelphia, of eleven stories, I question very strongly its popularity as I do its desirability. There can be no disadvantage, however, in a multiple story building, and it certainly has the advantage of minimum primary cost per capita. Dr. Oschner is an advocate of this style, while Mr. Taylor, a prominent Eastern hospital architect, is an advocate of the single story construction.

The foundation of a building must be heavy enough at first. A roof can be rebuilt, but with a weak foundation you have no recourse. So let our building rest upon concrete foundation, which in proper construction presents a solid homogeneous mass of maximum weight and strength; impervious to external moisture and incapable of acting by capillarity to future destruction of walls of wards. Proper construction implies ample dimensions, and tested grade of cement, and clean gravel or crushed stone and sand in ratio not to exceed one to seven, and water in such quantity that you have a thorough mixture of "sloppy" consistency.

The walls, outside and supporting inside, may be of brick and mortar or of cast cement, or in higher buildings of steel skeleton and brick and mortar. Of these for average purposes brick and mortar is all satisfactory. Brick unglazed, however, will absorb its own weight of water in a rain storm, and thus often mean great expense in interior plastering. Glazed brick will avoid this, and spells economy later in heating and repairs. Improperly slaked lime and quicklime in the mortar will show for years in white spots on walls, internal or external, as will mortar laid in cold weather. The walls should be treated on the inside with one of the various tested waterproofing preparations on the market. Partitions at present are built of various fireproof products or cast cement, metal

lath on wood not having the standing formerly held.

The floors in a fireproof building are built in the following manner:

A heavy framework is laid flush with supporting walls, and resting upon heavy temporary pillars upon the ground. Upon this skeletal floor are placed square hollow tile of suitable size, leaving interspace for girders. In these spaces are placed reinforcing irons. Into these spaces is then poured a concrete mixture which forms a solid girder after proper setting. The supporting walls are then raised another story, and our substructure can be utilized in forming floor above. Such a floor should be tested as built, and is capable of forming a floor span up to forty feet free from posts or pillars, and is of course absolutely fireproof.

Such a process is continued to the roof, which may be of steel girders or wood as desired, of proper slant and of slate covering laid absolutely flat and free from curls or cracks. Gutters of best quality tin and heavily painted and repainted without undue delay.

With the above one has a shell almost homogeneous in its structure, absolutely fireproof and practically indestructible. Window casings are now of metal. This leaves to burn, doors, casings and floors, which are practically negligible quantities of wood. This with all electric wiring in metal sheaths, and all hot air pipes in brick or cast cement flues, renders fire to be absolutely inconsidered.

It has been mentioned that the so-called unit system is the highest present advance in hospital construction, and all newer buildings are so designed. By the unit system we mean a building such that each section be complete in itself. The advantages are obvious: economy in number of employees; absolute check of one department against another in all expense; in case of appearance of contagion, one section can be completely isolated, and, finally, in case of a partially filled hospital, service in one unit can be completely discontinued and all expense of heat, lights and housekeeping absolutely and totally eliminated. The arrangement in a section or unit depends upon several factors, primarily the relative ratio of private room beds to ward beds and the class catered to. The number of patients in a ward has been subject to wide differences of opinion. The majority feel, however, that a ward can be most economically and advantageously conducted with about twenty beds to each ward, and size would indicate twenty-four to twenty-eight feet represents good width, twelve to fourteen feet proper height, and length dependent upon number of beds, a ward of twenty beds requiring about sixty feet. In wards with windows on each side I personally favor twenty-four feet wards. This provides ample space between the two rows of beds. Further, in case of future changes, a long room twenty-four feet in width can be partitioned and provides ample size private rooms and halls of eight feet in width, which should be in all cases the minimum width of corridors. In wards with windows on but one side, fifteen feet in width is good, and should provide for from four to eight patients; and in pressing needs twenty-five to fifty per cent. more beds can be added without in any sense detracting efficiency of service. It is desirable that a window should be placed between each bed or each two beds, and I may suggest you may gain twenty-five per cent. of number of beds and consequent income of hospital by judicious spacing of windows. A further word as regards windows. They are as indicated in metal frames; but an additional outside sash for cold weather will mean very much in heating bills later. Private wards, in my opinion, should be arranged in series of three,

with private bath between two. Such gives divers choice in rooms and consequent price income to hospital. Two single rooms with private bath or one suite with or without bath. Regarding further arrangement of a section, we must provide for nurses' offices, diet-kitchens equipped with cupboard space, drains, cooking-tables, gas and electric plates and ovens, hot and cold water, and high pressure steam, linen rooms of capacity for section, locker rooms of ample space for each patient, toilet and baths for patients and staff, utensil room, sun or rest rooms for patients, and, finally, rooms for moribund patients from wards. Certain governmental hospitals do not permit such patients to be moved from wards.

Construction of floors presents a most perplexing problem in hospital construction, and yet evolves itself into a matter of refinement and funds available. The ideal floor is impervious to moisture, is free from cracks and crevices, of uniform and permanent color, and which can be easily and cheaply cleaned. There are a great variety, and no new type of patented floor should be adopted unless it can show five years of actual service. Marble in sheets sixteen by twenty-four inches and smaller, marble mosaic, terrazo, baked clay tile and patented floors of asbestos and asphaltum, wood, cork, rubber, linoleum, glass, slate and others. Terrazo is popular; is made by mixing dust free (and this is important) marble chips in a so-called rich mixture of high grade cement. This is free from cracks, makes a good joint with the walls and is not expensive. Cork laid in sheets upon our roughly prepared skeletal floor and covered with linoleum with glued and cemented joints is good and expensive. Rubber, to my idea, is only mentioned to be condemned. All in all, expense, durability and general satisfaction considered, first-class, thoroughly air-dried, tongued and grooved long strips of beech, oak or maple flooring laid on thoroughly dried sub-base and well nailed bids very strongly for favor in wards, halls and private rooms. Such a floor occasionally oiled or waxed will stand a most severe strain, does not cost excessively, does not require so heavy a sub-floor as other types, and adds very materially to strength of building.

For use in diet-kitchens, baths and toilet rooms, morgues, laboratories and such, wood is not in any sense desirable and its use should be discouraged. Terrazo or plain cement is preferable. A cement floor can be made by using high-grade cement in a sufficiently rich mixture and properly trowled, which is of such quality that it is equal in hardness and moisture-resisting properties to marble. It has the advantage of being free from joints and makes excellent union with wainscoting. Unfortunately the popularity of cement has been greatly handicapped by poor workmanship, and naturally so since its possibilities are not fully appreciated by the average workman. Incidentally, I may mention that imitation marble floors and wainscoting may be produced by incorporating silk threads of varied hues in the cement.

Walls are subject to many troubles, of which I mention only two obscure causes. A poor foundation will by capillarity absorb seepage sufficient to destroy almost any finish, as will absorption through wall from rain. All walls should be finished in the hard plaster coat free from trowel joint and then painted. Several coats are essential in painting; first, a very thin glue sizing coat, then lead and oil, glue sizing, lead and zinc and oil, glue, and final finishing coat of flat white enamel, which is cheaper and entirely proper; colors, however, perhaps are desirable in private rooms. A wall should stand some such severe test as this before accepting. Apply a mixture of

old wagon grease and soot to painted surface. This should be washed clean and without any damage to the surface. Such a wall will stand washing for years with no further cost for finishes, and, further, will hold plaster on the walls and avoid chipping and is cheaper eventually than any other treatment.

Electric lighting is proper system. The wiring is all in metal sheaths imbedded in the cement sub-floors. The light current enters from generating plant and is controlled by fuse. This is subdivided into each section controlled by fuse in box in nurses' office. This is further subdivided into series of not to exceed twelve lights on a circuit. The advantages are that in case any circuit becomes disabled, many lights are not out and wires are not overloaded. An overloaded wire will in time crystallize, become brittle and break, meaning expense in locating break and consequent expense in rewiring, even to perhaps necessitating tearing up an entire floor. Whether a hospital should generate its own current depends chiefly on cost of current furnished.

Some hospital builders place kitchens on top floor of buildings, thus hoping to obviate kitchen odors. While such is without a doubt important, it can practically be overcome by judicious independent ventilating systems with proper air intake. This is important, since in this case particularly incoming air must be warm, thus reducing to a minimum steam vapor which is disastrous to walls and equipment. Kitchens on top floors mean considerable expense in conveying coal and food that distance. Further, ultimate economy is materially influenced by equipment, which is not considered excepting that under certain conditions a refrigerating plant is a valuable asset. Apparently paradoxical though it may seem, in a certain insane asylum, while it cost nothing for ice nor its housing, a refrigerating plant was saving money over interest on investment and operating expense by reason of timely purchases of perishable products.

Morgues are deserving of thoughtful consideration of the painful experiences of friends and relatives as well as the practical facilities for pathological studies.

Be there one or more operating rooms, the same predominant ideal of centralization must prevail insofar as a central sterilizing room is concerned; since one plant can amply provide for much work. The size of the room depends upon one prominent factor, whether it be for clinical purposes or not. This should be independently ventilated and heated and lighted, should be preferably tile or marble floor and wainscoting, should be facing north with ample natural light.

The advanced ideas regarding hydrotherapeutics and electrotherapeutics would apparently indicate that such an equipment should be provided for if not installed.

A discussion of the heating and ventilating systems may become very technical and distressing. Each system has its advocates and that suffices. A consideration of one involves the second, and each are obviously essential. There are two systems of heating, the direct and indirect, and most hospital buildings utilize both. The indirect having to do with ventilating primarily, it may be best to discuss first. Indirect means bringing heated or superheated air into the various portions of building. To accomplish this air intake pipes or flues are placed at suitable elevation on sunny side of building, and air carried over steam pipes or radiators in basement, thence by flues opening into rooms at two-thirds distance above floor line. This is accomplished by either the gravity or Plenum system. The Plenum system depends upon fans to force air. The ideal Plenum system provides two pipes to each room, one carrying heated air

and the other unheated air, and by means of thermostats and regulating dampers a proportionate quantity of each enters dependent upon requirements. Foul air is discharged by flues placed at floor line preferably immediately below incoming air flue. This foul air is discharged into garret or directly into open. While such a system may be desirable for crowded quarters, yet its cost of installation is great and cost of maintenance certainly great where continuous service is demanded. It has been condemned in more than one hospital because of anemic conditions developing among nurses, and for other reasons.

The gravity sometimes called natural-system depends upon the fact that heated air rises in a certain definite ratio to its temperature, the size, shape, course and height of flues. Foul air flues are essentially the same as in the Plenum system excepting of rather large area. Several factors are important in this system. It is a natural system, and we depend in summer on sun's rays to heat air in garret, so it is desirable to provide low roofed garret. I cannot emphasize too strongly the importance of ample roof ventilating flues. Further in this system a foul air flue encases each intake flue. In summer with no heat on, there is a tendency to draw pure air in while the heated air of colder weather has a tendency to force foul air out. Such a system has advantage of supplying an abundance of fresh air at practically no cost of installation and absolutely no cost of maintenance. In case either system be installed, test out each in and out of flue with an airometer. Thus far the indirect system has been considered from a ventilating standpoint. In colder weather it serves as a heating plant. These radiators are piped on independent lines from engine room, and having its own reducing valves, varying degrees of superheated air can be furnished as required.

The direct system means heating air directly in the rooms, and should only be used when capacity of indirect system is taxed. This is also piped independently, and reducing valves means later economy in fuel.

A heating plant presents great opportunity for economy. Let me first say that an ideal plant shows no steam vapors day or night. The modern hospital requires a certain amount of steam under high pressure for sterilizing and cooking. So a high pressure plant is desirable. And considering such a plant the installation of electrical generating machinery is desirable. Assume this, then let our boilers generate proper pressure and we generate our current; this steam then under lower pressure during colder weather is ample for our direct and indirect heating systems. Then let it pass through water-tank, thus providing an abundance of hot water for laundries and all other purposes at minimum expense, and finally as water of condensation it is ready to pass hot into boilers. Get such boilers with self-stoking firepots, and further economy in maintenance is assured.

In closing, let me emphasize that every cent saved in maintenance means better service for patient or patients, and the greater the number of patients the lower the per capita cost to that city, state or individual expense.

The next Annual Meeting of the Michigan State Medical Society will be held in Detroit September 27-28, 1911.

A CONTRIBUTION TO THE ETIOLOGY OF ANTERIOR POLIOMYELITIS*

REPORT OF A CASE OF ACUTE ANTERIOR POLIOMYELITIS DEVELOPING DURING AN ATTACK OF CHOREA MINOR AND ACUTE ARTHRITIS, AND A CASE OF ANTERIOR POLIOMYELITIS CAUSED BY AN ACUTE GONORRHEAL INFECTION

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In reviewing the results of the more recent investigations, particularly the extensive work of Flexner, one must come to the conclusion that anterior poliomyelitis is not a single clinical and pathological entity, but that the symptom-complex is caused by definite anatomical lesions of the spinal cord and brain, the effects of several independent causes, the most important of which is the specific micro-organism causing epidemic poliomyelitis. Undoubtedly all other varieties are infectious but not specific. So it has been observed that poliomyelitis developed in the course of other acute infectious diseases, such as measles, scarlet fever, pertussis. Schueller and Trommer† have observed that it follows vaccination. Further, it has been demonstrated experimentally that inoculations of the typhoid bacillus, influenza bacillus and Loeffler's bacillus, with their respective toxines, will produce anatomical changes in the spinal cord very similar in location and character to those of anterior poliomyelitis. On the other hand is the fact that Schultze demonstrated the Jaeger-Weichselbaum diplococcus in the cerebro-spinal fluid of poliomyelitis important. Diplococci were found by Chapin, Concetti, Harbitz and others. The case of Raymond and Sicord,* where a polynuclear leucocytosis in the cloudy cerebro-spinal fluid was found, would indicate a markedly similar or an identical infectious process with that of epidemic cerebro-spinal meningitis. More conclusive was the very interesting case of Marinesco,† in which he found an accumulation of pneumococci in the artery sulco-commissuralis. In other cases the cytological examination of the cerebro-spinal fluid showed a lymphocytosis.

The bacteriological examinations of the spinal cord after death are usually negative, a fact which is only of significance in those cases that succumbed to the disease soon after its onset, as the specific organisms disappear early from the seat of the lesion in the spinal cord, which coincides with the short duration of the acute clinical manifestation. It becomes very apparent from the marked variations in the foregoing citation that they are not conclusive, that they are the exceptions, and are probably primarily cases of meningomyelitis represented in many of the sporadic cases of poliomyelitis. As an illustration of this statement the writer recalls a most unusual case with the following history: A patient, fourteen

*Presented at a special meeting of the Clinical Society of the University of Michigan, March 29, 1911.

† "Nervenclinic," 1907.

* Revue de Neurologique, 1902.

† Brissaud, Londe, Archard-Grenet, Revue de Neurologique, 1903.

years of age, complaining of weakness in the right lower extremity, with marked emaciation of the right buttock, thigh and leg.

The paternal grandmother died of meningitis at the age of twenty-one years. One paternal uncle suffered from arthritis deformans for many years, and eventually succumbed to pneumonia. The patient has a nervous temperament. He was well until thirteen years of age. In September, 1909, he became languid and mentally dull and was obliged to give up his school work. About two weeks later he developed choreiform movements of the face, upper extremities and occasionally of the right lower extremity. During this period he had indefinite pains in the shoulder joints, also in the arms and lower extremities. Three weeks after the onset of these symptoms he was suddenly taken with an attack of angina, nausea and vomiting, elevation of temperature (102° F.), severe pain in the lower part of the back and lower extremities, swelling and hyperemia of the right ankle and left knee joint, and on the second day complete paralysis of the right lower extremity and considerable weakness in the left. There was no disturbance of tactile or pain sense at any time during this illness. The patellar and Achilles tendon reflexes were absent. At the end of the second week of this acute illness the left lower extremity had improved considerably and there was some improvement in the right, but atrophy of the right leg was noticed at this time and a change in the electrical reactions (R. D. in the right gastrocnemius); while the left lower extremity improved, the right became more emaciated. At the end of six weeks the patient was able to be about, the left lower extremity normal, the right leg paralyzed. During the acute illness and for weeks after, the choreiform movements continued in the upper extremities but ceased in the lower. There was considerable fixation in the right ankle and left knee joint, but it resulted in complete recovery. A systolic murmur was heard most distinctly in the 3rd i. c. s. just to the left of the sternum. It was first noticed during the second week of the illness.

Examination. June 5, 1910. The patient's general appearance was fairly good. The choreiform movements continued in the face muscles, most marked on the right side, incessant choreiform movements of both arms and occasionally of the left thigh. The eyes were normal and there was no facial palsy, no tremor or involuntary movements of the tongue and no speech defect. The tonsils were enlarged and septic. There was no disturbance of general sensibility. Tactile and pain sense was normal everywhere. The thorax was symmetrically developed, no atrophy of the pectorals, the lungs and respiration free from any disturbance. The apex beat was seen in the 5th i. c. s., 3 cm. to the inner side of the left mammary line. The heart's action was regular, a blowing sound in the 3rd i. c. s., 1 cm. to the left of the sternum, occurred with the first heart sound. The spine was straight and there was no spinal tenderness. The musculature of the back was symmetrically developed and the tonicity was equal on both sides. The reflexes of the trunk were all active and normal. The musculature of the arms was small but equal on both sides; no atrophy of the arms. There were involuntary incoördinate movements of both arms, which were more or less constant. The muscular strength was about equal in both arms but somewhat diminished. The biceps and triceps jerks were equal and prompt. The right buttock was much smaller than the left. The glutei muscles of the right side were greatly atrophied and the electrical formula changed (R. D.). The right lower extremity was much smaller than the left; greatest atrophy was in the leg. The gastrocnemius was

markedly reduced in volume, and gives electrical reaction of degeneration. The pronei and anterior tibial muscles were atrophied. The electrical formula was not changed in the anterior group. Anterior flexion of the right foot was very weak. The patient was unable to stand on the toes of the right foot. The patellar tendon reflex was diminished; the Achilles reflex was lost; the plantar reflex was normal. The right leg felt cold to touch. The left lower extremity was normal.

Another interesting case is that of a young woman, age eighteen, who developed acute anterior poliomyelitis after an acute gonorrheal infection. The family history in this case was entirely negative.

As a child she was in good health; she had the ordinary diseases of childhood and always made a good recovery. Menstruation occurred at the age of thirteen, regular and without pain. A year ago she contracted gonorrhea. On the fourth or fifth day she noticed a vaginal discharge and some irritation when voiding urine. She was not treated at this time. On the tenth day she was suddenly taken with a severe chill, nausea and vomiting, headache, pain in the dorsal region and in the lower extremities. Micturition was very painful and frequent, with vesicle tenesmus and profuse purulent urethral discharge. Microscopical examination showed the gonococcus. The temperature reached 103°F. on the first day. The elevation of temperature continued for several days. On the third day she noticed some difficulty in moving the lower extremities, and the day following the right lower extremity was completely paralyzed and the left very weak. She was confined to bed two weeks. At the end of this time she could not stand or walk. There followed a gradual improvement, and she regained muscular strength in the left lower extremity; more slowly in the right. The right lower extremity gradually diminished in size, especially the leg. She had no numbness and could always feel light touch and pin-prick equally well in both lower extremities, but the right leg had been colder to touch than the left since her illness. She thinks that the atrophy has not increased for several months.

The examination gave the following result. She appears healthy and says she is well with the exception of the weakness in the right lower extremity, which is much smaller than the left. This is most noticeable in the leg. The right leg felt colder to touch than the left. She felt light touch and pin point equally well all over. Localizing sense was good in both lower extremities, and sense of position and motion was not disturbed. Thermal sense was not disturbed. Muscular strength was much diminished in flexion and extension of the right thigh and leg. She could not extend the right foot; flexion was difficult. The muscles of the right leg were soft, flabby and markedly atrophied, especially the posterior group. There was a difference in the circumference of one and one-half inches at corresponding points of the two legs. The electrical irritability was diminished in all of the muscles of the right leg, and there was reaction of degeneration in the posterior group. The right patellar tendon reflex was depressed; the right Achilles reflex was lost; the normal plantar reflex was present. Otherwise the examination was negative except the urine. In the sediment of the urine were found many red blood cells, leucocytes and numerous epithelial cells. There was considerable vaginal discharge in which the gonococcus was found.

Another interesting group of cases were five, varying between the ages of two and twelve, observed in one family. The first patient was taken suddenly with the usual initial symptoms; the paralysis of both

lower extremities followed on the third day. The second and third patient developed the disease a few days later. The initial symptoms were the same in these two cases as in the first. In both patients the lower extremities were involved and both made complete recoveries, while the first was permanently disabled. The other two cases were very mild and developed ten days later. All but one made complete recoveries. The case which developed first is permanently paralyzed in both lower extremities.

Two other cases were observed in neighboring families and occurred at same time. The disease was severe in both cases, with permanent complete disability of one lower extremity in both cases. Of unusual interest from an etiological standpoint is the case developing during an acute arthritis with endocarditis and preceded by chorea minor. Some investigators have been able to refer the etiology of chorea minor to acute infections in about seventy per cent. of their cases, but admit that this is not constant and very variable in character. When one compares the results of the more recent investigations, it is very evident that chorea minor may be caused by a variety of noxious agents to which the individual is particularly susceptible at the early age, when the reflex inhibitory centers of the motor apparatus are not fully developed. In this it is not unlike acute anterior poliomyelitis, both being a disturbance of the motor apparatus, although of an entirely different character. The close relationship between chorea minor and acute arthritis and endocarditis has long been recognized, but none of the numerous theories explain satisfactorily the association, although all of them are based upon the primary acute infection. While such instances where direct evidence of bacterial invasions or toxines are not the rule, they are nevertheless convincing. Clinically chorea minor and acute poliomyelitis are vastly different, and paralysis is no part of the symptom-complex of chorea, and in typical cases the motor power is not diminished, although there are cases in which the initial stage is accompanied by a paresis or pseudoparesis* which may conceal the characteristic symptoms of the disease, for which there is a pathologic-anatomical basis not unlike that of acute anterior poliomyelitis.

Epidemic poliomyelitis like epidemic meningitis is invariably a product of a specific micro-organism. However, we are forced to admit that identical clinical pictures, the result of the same anatomical changes, are produced by a variety of pathological conditions.

**New York *Medical Journal*, 1907. "Bruns Neurol. Clinic," 1905.

ON THE INJECTION OF DRUGS, ESPECIALLY SALVARSAN (EHRLICH) INTO THE LUMBAR MUSCLES

S. J. Meltzer, New York, states that the sacrospinal muscle is anatomically an exceptionally well-isolated large compact mass, densely packed with fine muscle bundles. For this reason it is an especially favorable site for the injection of drugs in solution or suspension, like salvarsan. The drug will remain in the muscle and not affect the adjacent tissues, which is an advantage. The absorption from this muscle is shown experimentally to be greater than from the gluteal muscles, and much better than from the subcutaneous tissue. Clinically salvarsan was found to exert a fairly rapid effect when injected into this muscle, in cases of secondary and tertiary syphilis. The Wassermann reaction was absent after this treatment. The author advocates the injection of salvarsan into this muscle in the treatment for syphilis on account of its efficiency and the absence of pain.—*Medical Record, March* 25, 1911.

THE SHORT ANESTHETIC, THE LEAST AND THE SHORTEST OPERATION AS AN ADDED INDICATION FOR PROMPT AND EFFICIENT TREATMENT OF MASTOID, APPENDICEAL AND GALL BLADDER INFECTIONS *

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The problem of medicine is the problem of treatment. This has been forgotten in the mad rush for research, for new operations, new instruments and new technique. The old adages of Hippocrates are neglected and the doctor has abandoned his place to the osteopaths, the Emanuelists and the Christian Scientists who still heal the sick.

The dominant influence on American medicine has for twenty-five years been a half understood Teutonic therapeutic nihilism. This has made the fundamental Hippocratic adage seem ridiculous. This adage is, "*It's the duty of the doctor to cure his patient safely, quickly, and pleasantly.*" The patient has been overlooked in the interest in the maneuver, in the pathology, or the technique.

Let us consider for a moment just what a doctor is and how he differs from a manual-tradesman. Almost any butcher can use the knife better than any surgeon, almost any harness-maker can use the needle better than any gynecologist, almost any net-maker can tie a knot quicker and better than any operator; yet none or all of these accomplishments make the doctor. The doctor has the great problem before him of curing his patient with as short a cut as possible, with as few stitches as possible, and with the least possible tying of knots.

I am led to consider the importance of a rapid short surgical procedure by the study of some stenoscopic photographs of operations recently foisted upon the book market. These pictures show too strong a tendency to demonstrate a mechanically perfect job, regardless of the interests of the patient. A surgical operation is not a mechanical but a therapeutic job. The surgeon is not dealing with passive but with active material. His objects are not physical, but biologic accomplishments. Therefore his methods are not those of the mechanic but those of the biologist.

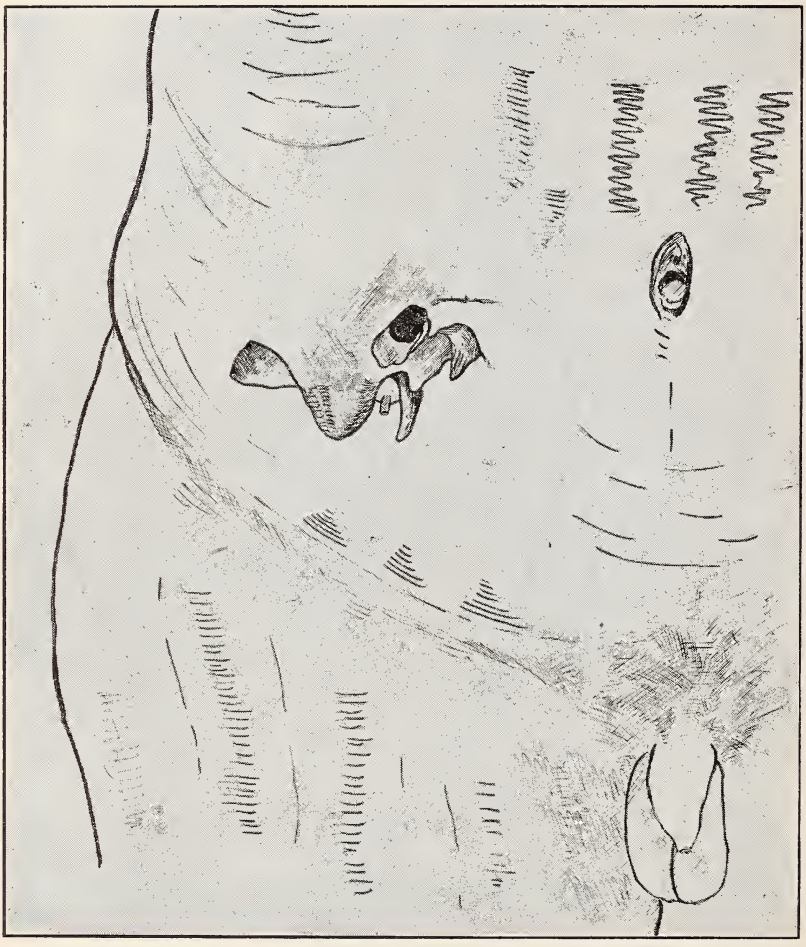
There is a certain lot of common therapeutic measures that must be in the hands of every physician unless he is in some manner limited entirely to internal medicine by his location or other circumstances. In the isolated community the doctor must do whatever comes before him. It is especially important that such a man have his ideals on the broad basis of his almost unlimited responsibility.

In the case of appendicitis, the battle between expectancy and operative interference has been pretty nearly settled. Now and then a belated straggler of the army of "starvation and enemas" lets off from his blunderbuss an abortive explosion, which is followed by a silence like that which surrounds the graves of thousands who have been martyrs to that delusion.

*Read before the Berrien County Medical Society, December 15, 1910.

Little attention has been given to the reasons for the positive manner in which the profession recommends appendisectomy, and the uniformity with which the enlightened public demands it as soon as the diagnosis can be made, and that too without any ifs or buts.

manipulation and traumatism a minimum, and the duration of the anesthetic and operation itself trifling. No intestines or omentum come into the light of day. (3) The duration of confinement to the hospital is trifling, and the loss from life and usefulness and the expense in the hospital are



SHOWING RELATIVE SIZE OF MASTOID AND APPENDICEAL REGIONS

It seems to me that this condition of professional and public sentiment has been brought about by the coincident development of several factors, namely: (1) The time of operation is fixed in the mind, both professional and lay, as the earliest possible moment. (2) The incision is short, the proportionately negligible. (4) There are no dangers from thrombosis, peritonitis, and other complications so imminent as they are when expectant or "starvation enema methods" prevail whether operation is eventually performed or not.

The majority of operators throughout

the world now perform appendisectomy in less than twenty minutes and keep the patient in bed less than two days, and in the hospital, or away from his regular duties, less than two weeks. All of these items indicate increased surgical efficiency, and each one of them extends the horizon of usefulness for the operation and brings a larger and larger number of patients from suffering and morbidity to happiness and health.

The same cannot be said for the removal of the suppurating antrum. The mastoid is not as easily cut as the soft abdominal wall. The border between danger and safety in the region of the facial nerve is measured in fractions of a millimeter. The majority of surgeons have paid superficial attention to the anatomy of the petrosa, and left it almost entirely to otologists, whose surgical efficiency does not generally keep pace with their anatomical and pathological information. Surgeons have not the otological knowledge and otologists have not the surgical efficiency. The patient therefore endures a two-hour puttering and indecisive operation from an otologist, or he has a surgeon who recklessly hammers and chisels away for the pus to get out, regardless of and unbeknownst to the extent of the infection or the proximity of the semi-circular canals, the facial nerve or the os stapes. The surgeon therefore for his lack of otologic knowledge, the otologist because of his lack of surgical efficiency, and the family doctor because of his poor success with either of these operators, practises an expectant treatment. This is greatly to the risk of the patient a distinct loss to scientific medicine and a blot on the honor of the profession, on the honor of which we all ultimately depend.

I can illustrate my point by placing over the area of the appendix a tracing of the naked petrosa. Inches on the abdomen are like fractions of a millimeter on the petrosa. The bone requires great mechanical force to cut it, and it is absolutely ridged to any sort of exploration or examination, even that of the probe.

It is unnecessary to point out the macroscopic maneuvers necessary to an appendisectory and the microscopic operations necessary to remove the infected wall of the antrum and the connecting air cells, reaching on the one hand to the tip of the mastoid, and on the other to the root of the zygoma.

The trifling though much studied congenital and acquired deviations of the appendix from the normal are discounted by the evolution of the mastoid antrum in different periods of life and the congenital variations in the course and location of the facial nerve. The results of long-continued and often unnoticed or unreported suppuration in the mastoid wholly overshadow in relative extent and complexity the well-recognized mischief done by chronic or recurring appendicitis.

The discerning physician who is in the place of the patient, as far as one person can ever put himself in another's place, cannot see why the suppurating mastoid antrum should not be treated just the same as the suppurating appendix. He calls the otologist, who does a peracentisis of the drum-head, if not already performed, and waits. He calls a surgeon, who digs into the mastoid antrum, and it continues to suppurate for months. During subsequent years it closes, heals and opens, or is operated upon repeatedly without the obliteration of the suppuration.

In the hands of an operator who is surgically efficient and at the same time intimate with the almost microscopic anatomy of the petrosa and with the embryologic variations, pathological deformities and clinical histories of every possible course of the disease, the infected antrum

can be as easily, quickly, promptly and safely cured as the infected appendix.

If we pass now to the gall bladder we find another state of affairs. The patients are usually old, and the disease is very chronic and leaves the heart as well as all the other tissues of the body much unstrung. Death after gall-bladder operations makes these cases unwelcome at the hospital.

The condition of the patient, however, is a fixed fact. The operator must conform to fate and avoid any risk to the patient. This he does by operating in stages. A cholecystotomy is first performed in five minutes of ether anesthetic, and then he allows a few weeks' drainage, during which the intoxication by the gall-bladder toxine will pass away.

Much study has been given the peculiar selective actions of lead and other poisons; clinically no more important manifestations of this selective action of toxins can be found than the toxin of cholecystitis for the heart muscles and nerves.

It is possible that my experience is exceptional, with an unusual number of patients with irregular tachycardia and heart incompetency, who have been marvelously, promptly and effectively cured by two or three months' drainage of a chronic cholecystitis. Histories of many such cases have been reported by me in the medical literature.

One of my recent cases was a man who had led a temperate and active outdoor life in the stock-yards. November last he began to complain of dyspnea. In March, April and May he had ascites and was frequently tapped. Cirrhosis of the liver was the diagnosis. In July two quarts of fluid were removed from the right pleural cavity, and the patient was feeling some better, but still confined to his room. Then with a diagnosis of cardiac incompetency from toxic gall-bladder disease, the operation under ether anesthesia was performed in ten minutes and the gall bladder drained. In a few weeks the pulse was normal and the man went back to work in the stock-yards.

A protracted operation would have been no more curative and would not have been survived.

Conclusion

(1) The interest in any operation is confined to the resulting cure.

(2) An anesthetic should be the shortest possible.

(3) The indications of wound treatment are (a) the arrest of hemorrhage, (b) the coaptation of necessary parts, (c) the minimum traumatism.

(4) The shorter the incision, the fewer stitches required for closure.

(5) The briefer the operation the wider the range of usefulness of the procedure.

SURGICAL SUGGESTIONS

"Non-bacterial" pyuria is very suspicious of tuberculosis.—*American Journal of Surgery.*

In nephrectomy for hypernophroma it is very important to remove the renal vein.—*American Journal of Surgery.*

The transperitoneal route, with retraction of the colon, affords the best exposure in radical nephrectomy for neoplasm.—*American Journal of Surgery.*

In case of urinary extravasation from rupture of the urethra, make no attempt to pass a catheter and waste no time in incising the edematous area, but perform perineal urethrotomy at once. —*American Journal of Surgery.*

In pyuria of prostatic origin—as shown by massage—if there has been no recent infection and, especially, if the pus is germ-free, prostatic calculi should be thought of. A skiagraph will determine their presence or absence.—*American Journal of Surgery.*

GENU VALGUM; WITH OBSERVATIONS ON CORRECTIVE OSTEOTOMY*

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When the knee lies internal to a line drawn from the acetabulum to a point on the dorsum of the foot, midway between the malleoli, a condition of *genu valgum* or knock-knee is said to exist. It is only, however, to aggravated deviations from this rule that the term can be surgically, and hence properly applied, because moderate degrees of the deformity are normal to the human creature; that is to say, the center of the knee will normally be found on the inside of the line just mentioned. This is due to the fact that the axis of the thigh, on account of the length of the transverse pelvic diameter, does not coincide with that of the leg, but intersects it at an external obtuse angle of large degree, thus throwing the knee to the inner side of the acetabulo-malleolar line. This state of affairs is much more pronounced in the female than in the male, because of the greater pelvic width in the former, thus rendering still less coincident the femoral and crural axes. Such divergence in axial trend must be harmonized by some mechanic factor at the point of articular contact, and this correction is brought about by an elongation of the internal femoral condyle, which is from one-quarter to one-half inch longer than its fellow.

Statistics show that *genu valgum*, in relation to general surgical diseases and malformations, bears the ratio of about one to twenty-four, and to its congener, *genu varum* or bow-legs, of a little more than one to two, bow-legs being observed a trifle less than twice as frequently as knock-knee. The deformity may be unilateral, bilateral or mixed, being in the latter instance associated with bow-leg in the opposite member; and when bilateral it may present different degrees of variation in the two limbs.

Genu valgum has been noticed in the newborn; but it usually does not appear until the child commences to stand or to walk, and the cause is almost always rachitis. As stated by Young, "Rickets softens the bones, weakens the muscles and ligaments, and the superincumbent weight of the body accomplishes the rest." Other elements enter into the etiology of this condition, such as inflammations, with or without trauma, displacing fractures, paralyses, as the result of nutritional disturbances, the postural factor in occupations, etc., but the disease called rickets must always remain as the most frequent cause.

The pathology of *genu valgum* includes primary softening with secondary hardening of the osseous structures; linear hypertrophy of the internal condyle, together with atrophy of the external; stretching and weakening of the internal lateral ligament, with corresponding contraction and condensation of its fellow, externally; muscular changes on account of position or disease, and greater or less rotation and antero-posterior curvature both above and below the joint.

The symptoms, signs, and hence the

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diagnosis of this deformity are readily recognized, the naked-eye appearances being amply sufficient. The following are a few points bearing upon this part of the subject: the feet are more or less widely separated and everted when the limbs are extended and the knees are in contact; there is impossibility of approximating the feet when the limbs are in the position just described, together with excessive lateral joint-mobility, disappearance of the deformity on flexion of the legs upon the flexed thighs, supposed to be due to lack of antero-posterior thickening of the internal condyle, etc.

In the matter of prognosis it has been stated by some writers that time is corrective; but I doubt if any well-authenticated case of formerly pronounced and latterly "out-grown" *genu valgum* can be exhibited. Recovery by the operation of time, that is, by natural growth and action of better-toned muscles, except in the mildest types, is not to be expected. Deformity may not increase, certainly *will not* increase after the osseous eburnation that frequently follows rickets; but active mechanic interference must be instituted if we desire to do our patients any substantial good.

This brings us to the most important and, at the same time, the most interesting portion of this subject, the treatment. Naturally the matter falls under two heads, viz., first, non-operative; second, operative. Under the first we note such manipulative factors as massage and pressure, the latter exerting its force in a direction of course away from the central axis of the body while the extremities of the limb are fixed. This pressure can be applied either by the hand of the masseur or by properly constructed apparatus to be worn indefinitely, but taken off when the patient is in bed.

With this apparatus-treatment I have had no experience. Some surgeons with certain apparatus I know secure good results while the bones are of course yet soft and more or less elastic; but after the advent of sclerosis its employment is practically out of the question. It is at best slow, clumsy, burdensome and more or less torturing.

The way to correct a case of *genu valgum* to-day is to resort to either osteoclasis or osteotomy. By the former is meant the securing through any well-directed force of a simple fracture of the femur at or near the proper point. This method is inexact, and although it furnishes the great desideratum of securing correction without the necessity of compound fracturing, has not been extensively adopted by operators. I confess I am partial to osteotomy for the correction of curvatures of the long bones, and through my experience I have reason to be so.

Several excellent operations have been instituted within the past thirty years for the correction of *genu valgum* by osteotomy, although deliberate osteal sections for the same purpose were undertaken long ago, the first having been performed by Meyer, of Wurzburg, in 1851. The best of these operations are the following three: 1, Ogston's; 2, Macewen's; 3, MacCormac's.

The first consists in separating the internal condyle from the shaft of the bone by a vertical section, and after sliding the condyle up the diaphysis a sufficient distance, fastening it there. This procedure, however well it may correct the deformity, is never justifiable, in view of the fact that the great knee-joint is unnecessarily entered; for other operative methods fully as efficacious avoid, and very justly, the penetration of this important articulation. Hence the Ogston method will be discussed no further in this paper.

The remaining two operations, viz., the Macewen and the MacCormac, are the ones I propose considering. Although the former is the product of a mighty mind and

is recommended to-day by almost, if not quite, all of the text-books as superior to the MacCormac, it is in my opinion inferior to the latter, or rather to the modified MacCormac, as I shall proceed to show.

In the Macewen operation the incision is made vertically on the *inner* aspect of the thigh, and the bone divided "at a point where the two following lines meet; one drawn transversely, a finger's breadth above the external condyle, and a longitudinal one drawn one-half an inch in front of the abductor magnus tendon."

In the MacCormac operation the incision is made transversely on the *outer* aspect of the thigh at a point about two inches above the lower femoral epiphysis.

In an osteotomy for *genu valgum* on a boy of five that I performed several years ago, the MacCormac operation with some original modifications was chosen. These modifications were the following: 1, a change of incision from the transverse to the vertical direction; and, 2, an incomplete section of the bone, with the production of a "green stick" fracture in the portion undivided.

First: The MacCormac incision is transverse, and can only be accounted for on the ground of permitting better vision during the procedure. A surgeon, in the first place, should see with his fingers, and, in the second place, he should make incisions that disturb to the least possible extent, consistent with thorough work, the normal anatomic relations of the structures through which he needs must pass. A transverse incision in this operation divides the fibers of the vastus externus; a vertical one simply separates them. Union after transverse section of striated muscle is practically never followed by restoration of purely muscular continuity. Fibrous tissue takes the place of the destroyed muscle-cells, and a plane of connective tissue subsequently appears at the site of the former incision, thus damaging, in direct proportion to the amount of connective tissue present, the contractility and hence the usefulness of the muscle. It is needless to say that longitudinal separation of the muscle-fibers, when permissible, is better surgery than transverse section.

Second: In no text-book or operator's work have I seen advocated the securing of a "green-stick" fracture as a factor in the correction of *genu valgum* or varum. It is, of course, only possible in the young; but children form and will continue to form the great majority of cases for operation. "Greenstick" fracturing is impossible in the Macewen operation, because the *inner* portion of the femur is at once divided. In the MacCormac operation, however, the *outer* portion being the first to undergo division, the remainder, after gentle testing, may be subjected to pressure sufficient to fracture incompletely, and thus permit of deformity correction without total loss of osseous continuity. This can generally be effected, though not always, and, as can readily be seen, is a great advantage over complete bony section. I at once noticed the value of the MacCormac site in relation to this operative feature.

In the performance of these osteotomies, after placing the limb on a sand-bag, the desired section of the bone is readily accomplished by the free use of the mallet and chisel, and at the same time the correction is made and a plaster-cast applied over proper aseptic dressings, and allowed to remain for a month or more without disturbance.

When one limb is deformed to a greater degree than its fellow, if the variation be not pronounced, a compensatory tilting of the pelvis will overcome the moderate difference in the length of the limbs caused by correction; but when this variation is considerable, a sufficiently long, cylindric section of the femur in the limb that

shows the greater deformity must be removed in order to render the limbs of equal length.

To the Macewen operation I find the following objections:

1. It has to be performed in the neighborhood of a greater number of important structures than is necessary, viz.: The internal saphenous vein and nerve, the anastomotica magna artery, and to a certain extent the internal, upward prolongation of the synovial membrane lining the knee-joint, in regard to which Gray states: "On each side of the patella the synovial membrane extends beneath the aponeurosis of the vasti muscles, and more especially beneath that of the vastus internus." 2. The line of section is, for obvious reasons, too close to the epiphysis. 3. It necessitates the cutting of a wider expanse of bone than is desirable. 4. It precludes the possibility of an advantageous "green-stick" fracturing.

The following points of superiority attach to the modified operation of MacCormac:

1. The incision *separates* the muscular fasciculi, and does not appreciably *divide* them. (This condition of affairs I know obtains in the Macewen operation, and therefore the latter is not inferior to the former in this respect, but the innovation is an improvement on the old MacCormac.)

2. The only important structure to be avoided with the exception of the popliteal artery, which, by the way, should be borne in mind during *any* osteotomy for the remedy of this deformity, is the peroneal nerve lying in close proximity to the tendon of the biceps; but this cord, by virtue of the trend of the incision, is in very little danger.

3. The operation permits of partial, external bone-section with a maintenance of internal, osseous continuity.

In conclusion, allow me to recapitulate the modifications of the MacCormac operation that seem to possess merit:

1. The employment of the longitudinal instead of the transverse incision. 2. The aim to secure correction of the deformity without total loss of osseous continuity, through the agency of the so-called "green-stick" fracture.

The former modification is an exemplar of neater and hence better surgery, and the latter not only renders the MacCormac method the preferable one in the majority of instances, but also, by greater ease of manipulation and by greater certainty of good results, changes the dictum of many authorities as to treatment of cases in which such procedure is possible, viz., the children afflicted with this distressing deformity; for while heretofore it has seemed best to defer operations on the young and to try the effect of corrective apparatus, it can now be stated as a recognized fact that in these same boys and girls, who have all the time imaginable at their disposal, and in whom center all the possibilities associated with the training and molding of structures actively engaged in the processes of evolution, is found every indication for the performance of one of the most humane as well as one of the most brilliant operations in the realm of modern surgery.

GYNECOLOGICAL HINTS

A soft rubber or metal catheter is preferable to a glass one. I have known of two instances where the end of a glass catheter was broken off and remained in the bladder. In sterilizing a glass catheter by boiling, it may be so injured as to favor the occurrence of such an accident.

All late operations for perineal laceration, in order to be successful, must contain the following elements: 1, They must extend well up the posterior vaginal wall. 2, The denudation must go through the entire thickness of the mucosa. 3, The stitches must be inserted into the tissues so as to catch the muscle.

THE DIAGNOSIS OF INCIPIENT PULMONARY TUBERCULOSIS WITH SPECIAL REFERENCE TO THE USE OF TUBERCULIN*

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The diagnosis of pulmonary tuberculosis in the incipient stage is not an easy matter. Too large a majority of the cases are not recognized until they have gone considerably beyond this stage. This is partly the fault of the patient, who does not consult a physician early but relies perhaps on patent remedies to restore his failing health; partly due to the physician, who has not sufficiently perfected himself in this important part of his professional duty; and partly due to the fact that in many cases the symptoms and signs are so indefinite that the diagnosis is next to impossible with the means at our command.

The part played by heredity in the transmission of tuberculosis is not definitely settled. The most reasonable present view is as follows: Properties or characteristics acquired most recently by a race are the first to be lost. Mankind has gradually developed a resistance to the various infections to which recent generations have been subjected. The race has also gradually developed a higher mental capacity. When parents by inheritance, overwork, impure air, starvation, or disease lose a certain amount of their vitality and resistance, the organism which results from a union of their germ cells is by a process of starvation or intoxication not up to par in power of resistance against disease, or in ability to attain the high mental development which is demanded by our present complex social relations. This may show itself by a pathological susceptibility to tuberculosis and other diseases, or by any one of the disturbances of the higher brain centers—insanity, epilepsy or hysteria. To what extent this tendency is specific to the disease from which the parent suffered is not at present known, but it is encouraging to note that evidence is accumulating to show that in some cases, at least, even of tuberculosis, a child may inherit a certain immunity to the disease from which the mother suffered.

It is probable, however, that exposure to infection after birth is what occurs in the vast majority of cases, although placental infection has practically been proven, and there is very good evidence of an inherited tendency and even a specific susceptibility in many cases. Therefore, in taking a history we should, of course, inquire into the family history of the patient for general and specific causes of lost resistance, but we should be especially careful to learn of possible means of infection from persons with active disease.

In the previous medical history the occurrence of pneumonia, pleurisy, adenitis and influenza are usually sufficiently well investigated, but not enough stress is placed upon prolonged hoarseness, catarrhal symptoms in the throat—which seems to reach as low as the diaphragm in some patients, pain in the chest and shoulders, and gastric disturbances. Reliable information is often hard to obtain, for

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many of the worst cases of tuberculosis of the larynx, with the peculiar hoarseness which has lasted for months, will insist that the hoarseness is due to a cold which they have just contracted. Some patients who cough up large amounts of sputum, loaded with tubercle bacilli, will maintain rigidly that they have merely a catarrh of the nose and throat; their pain in the chest is "rheumatism," they get short of breath when walking because they are not used to walking, and their explanations are so plausible that they are given some Dobell's solution as a gargle for their "catarrh" and some proprietary antiferment tablets for their "dyspepsia," while they drift along, kissing their children, borrowing their neighbors' pipes, and spitting everywhere.

Of the symptoms in the incipient stage, general ill feeling, inability to gain weight, indigestion, with a feeling of weight in the epigastrium after eating, more or less definite dull pains in the chest, with or without cough and hoarseness, are all suggestive. An attack of hemoptysis or an acute pleurisy will make the diagnosis almost certain.

Previous to the physical examination, the patient's temperature and pulse should be taken, preferably before and after exercise, and the patient should be given a thermometer and shown how to take and record his temperature and pulse three or four times a day, over a rather extended period. Most patients will keep a much more accurate record than we would expect, especially if its importance is sufficiently impressed upon them. An abnormal acceleration of the pulse after exertion in the absence of any heart condition is an important early sign.

A patient cannot be properly examined in five or ten minutes through a small triangular opening in the clothing, which lays bare the manubrium and the inner ends of the clavicles, as is too often attempted by the busy doctor, especially with a modest patient. Very little can be learned in this way about the comparative signs on the two sides of the chest, and the breath sounds are obscured by the rubbing of the clothing upon the skin and upon the hands and stethoscope. The patient's chest should be completely bared, for even under the most favorable conditions little enough will be ascertained by the physical examination of incipient cases. In a cold room the involuntary contractions of the muscles and the friction of the stethoscope upon the roughened skin will produce sounds easily interpreted as rales or roughened breathing.

In the preliminary inspection of the patient one should note the general build of the patient and the shape of the thorax, remembering, however, that a patient may have tuberculosis without showing any asymmetry of the chest or much diminished expansion. The mouth and throat should be examined to ascertain the condition of the teeth, the tonsils, and, if possible, the larynx. Woodcock calls attention to a pearly, bluish-white tint to the soft palate in tubercular cases. A popular view among some of the older practitioners is that there is an abnormal growth of hair in tuberculosis. This actually occurs in children and young adults, in whom there is sometimes seen a growth of downy hair covering nearly all of the body. The clubbing of the fingers and curving of the nails do not occur frequently in early cases. They are due to nutritional and circulatory disturbances and occur in later cases and more often in women. A careful search should be made for enlarged lymphatic glands, especially in the cervical group, but also in the axillæ and the supra-clavicular fossæ. Recently mentioned signs of as yet unproven value are an atrophy of the skin over an affected area, hyperalgesia and an increase in temperature on the affected side when obtained by burying the thermometer in a fold of the skin.

By palpation a better idea may be obtained of the relative expansion on the two sides. Vocal fremitus does not show much before some consolidation has occurred, and we should not be led astray by the normal difference due to a closer opposition of the right apex to the trachea.

Percussion of the apices should be done very carefully, outlining a band of resonance, running backwards across each supraclavicular fossa. A narrowing of this band is one of the early objective signs in beginning processes.

By auscultation we find the most valuable signs in early cases. The chest should be gone over very slowly and deliberately, listening carefully in the regions above and below the clavicles, at the lower borders of the lungs in front, the whole area above and between the scapulæ and the bases behind. It is often advisable to begin the examination of the chest by listening with the stethoscope, for in some cases the deep breaths which the patient is asked to take during inspection and palpation may dispel some of the fine rales which were present at the beginning of the examination. A prolongation of the expiratory sound with a higher pitch than is heard at the corresponding point on the opposite side, together with a granular or rude character to the breath sounds, which condition seems to precede the occurrence of rales in most cases, are the most important signs. Rales may appear after coughing, which could not be heard before. The whispered voice gives valuable signs of beginning consolidation. Miller, Pelton and others lay great stress on the cough sound. In doubtful cases the patient should be gone over carefully at varying intervals.

In only about thirty-five per cent. of incipient cases are bacilli found in the sputum; therefore, negative findings cannot rule out tuberculosis. The use of one of the antiform preparations to concentrate the bacilli is of value in cases in which enough material can be obtained. At present a few men are advocating examinations of the stools and stomach contents for the bacilli, especially in children and those who expectorate very little. The differential examination of a blood smear may in the future be of benefit, as Widal lays stress on a relative lymphocytosis and Arneth differentiates the granules in the nuclei of the leucocytes.

The opsonic index and the agglutination tests require technic and facilities not possessed by most laboratories, although serum diagnosis promises to give even more reliable results than the tuberculin tests.

The X-ray gives valuable information as to the location and extent of the lesion, and is certainly a most dependable method of diagnosis when in the hands of a skilled workman.

After this hasty discussion of the other means of diagnosis, we will consider a little more in detail the use of tuberculin. The principle governing all tuberculin tests is the same, being closely allied to that of sensitization of the body to a foreign substance. A patient with tuberculosis develops an enzyme which will split up the bacilli and their products. This enzyme is stored up, probably as a pro-enzyme, in varying quantities, depending upon the extent of the infection and the resistance of the patient. If such a person is injected with a small amount of dead tubercle bacilli or with the filtrate from glycerine bouillon, in which tubercle bacilli have grown (Koch's old tuberculin), the enzyme is liberated and the bacilli or the tuberculin are split up into a non-toxic and a toxic portion. If enough of this material is injected and enough enzyme is present, the toxin is liberated in sufficient quantities to produce a definite intoxication of the patient. This enzyme is stored up in nearly all of the body cells, so the local application of tuberculin will produce redness and infiltration

at the point of application. These proenzymes will remain in the body for an indefinite period, as is shown by the lasting immunity to various infectious diseases. Therefore, a healed lesion or a latent one will oftentimes give as marked a reaction as an active case of tuberculosis. While this fact is of great value in protecting against subsequent infection, it detracts markedly from the value of the tuberculin tests.

The subcutaneous administration of tuberculin in amounts from one-tenth to ten milligrams is at present generally considered to be the most valuable of the tuberculin tests. The reaction which follows may be divided into three phases. (1). A local inflammatory reaction at the point of injection, with redness, induration and tenderness. (2). Constitutional disturbances, with ill feeling, pains in the head, back and legs, nausea, rise of temperature and an increase in pulse rate. (3). The focal reaction at the point of infection, as shown by redness and increased tenderness of tubercular glands, or by increased cough and rales if the infection is in the lung.

This reaction is of value when carefully carried out, but has the following objection:

1. It cannot be given to a patient who has afternoon temperature, as the rise in temperature following an injection is one of the most accurate objective signs of a reaction.

2. It is contraindicated (on account of the focal reaction) in patients with meningeal symptoms, heart or kidney disease, a history of recent hemaptysis, epilepsy or Addison's Disease.

3. The patient must be under control for several days, preferably in a hospital, must have the temperature and pulse taken for two or three days preceding an injection, and as long a time following it.

4. The test frequently has to be repeated or a larger dose given, in order to be sure that a reaction is either positive or negative.

5. The focal reaction, which is one of the most valuable signs when obtained, is not made out in very many of the cases.

The reaction to the local application of tuberculin is utilized in the ophthalmo, the cutaneous and the percutaneous tests. The eye reaction is at present condemned by most physicians on account of the many accidents resulting from its use. The percutaneous (or Moro test) seems to have no advantages over the cutaneous reaction.

The skin test or Von Pirquet reaction is in many respects the most satisfactory test, as it can be used with ease in nearly all cases, is absolutely harmless, is very simple, and interferes in no way with the patient's freedom. One or two drops of old tuberculin, usually diluted to a strength of twenty-five to fifty per cent., is placed on a clean area on the interior surface of the forearm. Through these drops the skin is scratched by means of a small scalpel, a needle, or better, the platinum chisel which has been devised by Von Pirquet. When a reaction is positive a hyperemic area begins to surround the abrasion in from ten to twenty-four hours and continues for from three to ten days. The width of the papule may be one-fourth of an inch or it may be surrounded by a reddened zone sometimes an inch in diameter. This papule is raised and somewhat indurated. Generally no constitutional nor focal reaction occurs.

The main objection to this test has been that, while it may give a positive reaction in cases with actual disease, it also gives many positive reactions in apparently normal individuals. This is generally believed to be due to the fact that many adults have been infected with tuberculosis, but the lesions have entirely healed or remain latent. Only a small percent. of apparently healthy children under six months react, but from then to fifteen or

sixteen years of age there is a gradual increase in the number of reactions.

During last year* we reported cutaneous tests upon 280 students and 242 hospital patients, using dilutions of one per cent., five per cent. and twenty-five per cent., hoping to find a dilution to which only persons with active lesions would respond. We were in a measure unsuccessful, but concluded that the application of graded strength gave a much lower number of positive reactions in clinically non-tuberculous individuals without excluding a proportionate number of those with clinical signs.

Below we give three of our tables. Table 1 shows the number of positive reactions in 242 hospital cases.

Table II gives the results of the cutaneous test on 288 students, about ten per cent. of whom gave a suspicious history or had suspicious signs of tuberculosis. Eighteen per cent. of the freshmen gave positive reactions and forty-four per cent. of the seniors. Age probably plays only a small part in this difference. The lessened resistance on account of the confinement of college work, together with exposure to patients during the last two years, may have much to do with it. The break in the gradual rise occurring between the sophomore and junior years may be due partly to the fact that the sophomore class was not given the test until late in the year, while the members of the junior class were given the test early in the year.

TABLE I—CUTANEOUS REACTION

CLINICALLY	No. CASES	POSITIVE	% POS.	NEG.	D'BTF'L
Non-tuberculous	133	21	15.8	102	10
Suspicious	42	18	43	21	3
Early and Moderately Advanced	45	41	91	1	3
Advanced	22	14	64	5	3
Cases with Bacilli	30	27	90	2	1

Of 133 non-tuberculous patients 15 and 8-10 per cent. gave positive reactions. This is a lower percentage than is usually obtained in adults, partly due to the fact that our strongest dilution (twenty-five per cent.) is weaker than that used by many workers, some of whom use full strength tuberculin. We had, also, a rather large class of doubtful cases in which the diameter of the papule was less than five millimeters. Ninety-one per cent. of the early and moderately advanced cases were positive, as were ninety per cent. of the cases with bacilli. Only sixty-four per cent. of the advanced cases were positive, as is usually noticed.

In eighty-four of our hospital cases a subcutaneous injection was given, using as a guide to the size of the dose the intensity of the cutaneous reaction. A patient who failed to react to the cutaneous test was given an injection of either five or ten milligrams of tuberculin. Patients who gave moderate cutaneous reactions were given two or three mgs., while those who gave violent skin reactions were given one mg. subcutaneously. Whenever possible a reaction which was in the least doubtful was repeated. Graphic charts of the patient's temperature and pulse were kept for twenty-four hours preceding and forty-eight hours following the injection. The reaction was considered positive if the temperature rose more than one degree

*Gordon, T. D.: "The Relation of the Cutaneous to the Subcutaneous Tuberculin Test." "Transactions of the National Association for the Study and Prevention of Tuberculosis," Vol. VI, page 217, and "Physician and Surgeon," August, 1910.

above the patient's normal temperature for that time of the day, and in most cases the rise in temperature was accompanied by increased pulse rate and various constitutional symptoms. Focal signs were watched for, but were present in only a small number of our cases.

and shows fairly well the cases that would react to the subcutaneous test. In view of the fact that a certain proportion of apparently healthy adults react to all the tests and that some of the worst cases fail to react, we should not allow any test of this sort to interfere with a careful history and

TABLE II—CUTANEOUS REACTION—STUDENTS

CLASS	FRESH.	SOPH.	JUNIOR	SENIOR	TOTAL
Number	50	108	78	52	288
Average age	21	23	24	26	
Negative	40	70	50	24	184
Slight or Doubtful	1	4	2	5	12
Positive to 25% only	2	15	10	11	38
Positive to 5% and 25%	4	15	14	11	44
Positive to 1%, 5% and 25%	3	8	2	1	14
Total Positive	9	38	26	23	96
Per Cent. Positive	18%	35%	33⅓%	44%	33⅓%

Of forty-one patients giving negative cutaneous tests only one reacted to a subcutaneous injection, while of forty positive cases to the skin reaction thirty-six reacted to a subcutaneous injection; four were doubtful, due partly to the fact that it was not possible to give subsequent injections. The patients who gave definite cutaneous reactions almost invariably proved very sensitive to subcutaneous injections. As an indication of sensitiveness to tuberculin, I believe that the use of graded strength of tuberculin applied by the technic of Von Pirquet is as sensitive as any other test,

examination of every case in which tuberculosis is suspected.

In conclusion, I would say, there is no royal road to the diagnosis of tuberculosis, and any case in which there is the least suspicion of tuberculosis should be examined carefully and repeatedly.

Serum diagnosis and the X-ray are valuable, but can be used in very few of our cases.

Tuberculin alone cannot give us a diagnosis. A patient who fails to react to a series of tests carefully made with a good fresh preparation very probably does not

TABLE III—CASES GIVEN BOTH CUTANEOUS AND SUBCUTANEOUS TESTS

CUTANEOUS		SUBCUTANEOUS		
RESULT	No. CASES	POSITIVE	NEGATIVE	DOUBTFUL
Negative	41	1	40	—
Slight or Doubtful	3	1	1	1
25% Positive	—	—	—	—
25% and 5% Positive	18	17	—	1
25%, 5% and 1% Positive	22	19	—	3
Total Positive	40	36	—	4

have incipient tuberculosis. A patient who gives a reaction may have a latent or healed lesion, or the lesion which caused the reaction may be in a part of the body far remote from the disease which is causing the signs and symptoms of the patient's present trouble.

The skin reaction has many advantages over the eye test, and has some advantages over the subcutaneous test.

The use of tuberculin is a fairly easy and useful confirmatory means of diagnosis.

234 Wonderly Building.

SURGICAL SUGGESTIONS

If a hernia suddenly becomes irreducible, advise prompt operation; if the patient vomits, even once, insist upon it.—*American Journal of Surgery.*

Don't jump to the conclusion that a benign stricture of the rectum is syphilitic. Gonorrheal proctitis causes dense cicatricial infiltration.—*American Journal of Surgery.*

Smearing vaseline over the buttocks in a rectal examination, scratching the furniture with basins, spattering the carpet with plaster of Paris, are some of the "little things" that will lead some patients to consult thereafter surgeons with more neatness, if less skill.—*American Journal of Surgery.*

In any case in which catheterization is required, however careful the nurse or physician, administer hexamethylenamine as a prophylactic against cystitis.—*American Journal of Surgery.*

There is no convincing argument in favor of amputating normal omentum found in a hernia. There are sound arguments against it.—*American Journal of Surgery.*

When performing lateral anastomosis after intestinal resection, make the opening reasonably near the closed ends. Long blind pouches may give trouble.—*American Journal of Surgery.*

If a urethral discharge persists in spite of active treatment, especially if it be by silver salts, discontinue treatment for a while.—*American Journal of Surgery.*

In suitable cases excision of the tract of a fistula in ano may result in a speedy cure. Persistence of the fistula may follow the operation, but so may it follow the slow healing procedure of free incision.—*American Journal of Surgery.*

The surgeon who adopts the rule not to tie off the neck of an inguinal hernia sac until he has dissected from it all doubtful fatty masses will save himself the embarrassment of occasionally injuring the bladder.—*American Journal of Surgery.*

A sharp pain felt at the outer end of the groin upon sudden motion of the thigh, as in starting forward from a crouching position in a foot race, suggests fracture of the anterior spine of the ilium. This occurs usually in adolescents.—*American Journal of Surgery.*

As part of a hernioplasty it is always worth while to reduce by sutures the hiatus in the transversalis fascia whenever this can be conveniently done.—*American Journal of Surgery.*

GYNECOLOGICAL HINTS

(*International Journal of Surgery.*)

If a cathartic is given to a woman the night before an operation on her perineum or cervix, she is very apt to have an evacuation from her bowels during its performance. It is better to give the cathartic forty-eight hours before the expected operation or an enema on the morning it is done.

In washing the vagina and external genitals, cotton or gauze should be used, rather than a brush. A brush is apt to abrade the parts.

After operating on the perineum it is bad practice to apply a perineal pad, for by so doing discharges are transferred from the anus and the wound is apt to become infected. You will have better results when no dressing is used.

The rectum should be thoroughly dilated after all operations on the perineum, so that the bowels can be easily moved and gas allowed to escape.

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(Ex officio)

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Wilfrid Haughey, A. M., M. D., Editor, 24 West Main Street, Battle Creek, Michigan. The Society does not hold itself responsible for opinions expressed in original papers, discussions or communications.

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JUNE

EDITORIAL

"STARS"

Dr. Wilfrid Haughey,
Secretary Michigan State Medical Society,
Battle Creek, Michigan.

DEAR DOCTOR.—I do not approve of your method of black-listing members. My dues were paid promptly upon presentation of bill. If the rest of the members of the State Society are like me, some other plan will be adopted at the next meeting.

Very truly yours,

. . . . . .

This is one of the three letters received protesting against the seven hundred odd stars which appeared in the list of members in the last number of the JOURNAL. We have heard many favorable comments: "Keep right on," "This is strictly business."

A similar method has been used in Michigan for many years. See the "Transactions" for 1891 (twenty years ago). page 345, in the report of the Secretary:

"I regret to be obliged to report, according to our By- laws, that four members are five years in arrears for dues, have been notified, and have failed to respond, and will therefore be dropped from membership for non-payment of dues. They are:" (Here follow the names.)

The collection of dues is a disagreeable job at best, and cannot be done to satisfy every one. Many members and many counties take a laudable pride in paying their dues during the first month of the new year, not waiting for a bill. Would that all were alike in this respect.

In handling the records of over three thousand doctors in our card index, transcribing the names of those who were at the time in good standing, and placing these names in type for printing, there are many chances for error. A few errors crept in— a few names had stars which should not, and one or two names did not have stars which should. These were mistakes in proof-reading and correcting, were discovered, and the interested members notified in the same mail with the JOURNAL.

In some instances, notably that of Wayne County, the Secretary forwards his report the first of each month, in which event the list is correct only up to April 1st. Such County Secretaries should not be censured.

On account either of payment before May 1st, as many of them did, or before the time limit set by individual letters sent to each delinquent member, a large number of those whose names were starred last month have paid for the current year, and on another page we are printing a list of those names which have had the stars removed.

A goodly number of new and reinstated members will be found in the accompanying list.

In regard to those who have not yet paid for the present year, we have followed the specific directions of the House of Delegates, and before the mailing of this number of the JOURNAL their names were removed from the mailing list and reported to the American Medical Association.

Such members may regain their membership and good standing by simply paying their dues.

A WORD OF PRAISE

THE State Secretary wishes to take this opportunity to speak a few words of praise. Several of our County Societies have made a remarkable showing this year both in regard to new members and organization, and in regard to the scientific work they are doing.

Two counties have added an enormous percentage of new members to their rolls,—Genesee and Wayne. Genesee, under President Noah Bates, Secretary C. P. Clark and Treasurer F. B. Miner, has increased its paid-up membership from 42 for 1910 to 70 for 1911. Not a member has been lost for nonpayment of dues. Only six more members will entitle the county to two delegates, and we confidently expect them. Genesee holds two meetings a month.

Wayne County in point of numbers has surpassed this record under President Angus McLean and Secretary R. C. Jamieson.

In September last, 307 members had paid their 1910 dues. Before the end of the year this had been increased to 380. This year 440 have paid for 1911, and 98 new members have been added to the list since September. Such a record is an enviable one.

Kent County has increased its membership from 128 last year to 140 this year, leaving only 20 eligible doctors in the county not members. The interest and enthusiasm of their meetings is constantly improving.

Since the Saginaw meeting of the State Society in 1907, the membership of the Saginaw County Medical Society has dropped off until they had about half the number of four years ago. Since the election of officers this year, however, there has been a change. Every member but one has paid dues for the year 1911, and eight have been reinstated.

Kalamazoo Academy of Medicine has adopted the plan of two meetings a month, and issues a bi-monthly Bulletin. The interest in meetings has easily doubled, and the Society has grown—116 members.

Muskegon meets twice a month, has not lost a member, and has an enviable reputation both as to meetings and scientific interest and as to business methods. Their method of arranging programs, so that every member of the Society furnishes a part of the program each year, is excellent.

Bay has an excellent Bulletin and well-attended, enthusiastic meetings, with collections prompt.

Tuscola, through its work for the Board of Supervisors, has cemented its members so closely together that one could not be driven out of the Society. The dividends paid to each member of the Society after meeting all running expenses, dues, etc., is a surprise,—$50 to $80 a year.

In this connection it seems appropriate to remark that frequent meetings are conducive to good, live societies, to progressive scientific work, and to a warm brotherly interest.

While giving especial credit to a few societies, we would like to mention them all, but we must at least list those in which every member has paid his dues: Benzie, Charlevoix, Cheboygan, Clinton, Genesee, Ionia, Isabella, Lapeer, Mason, Menominee, Midland, Monroe, Muskegon-Oceana, Oakland, Ontonagon, Presque Isle, Tuscola.

The following have only one member unpaid: Cass, Chippewa, Eaton, Gogebic, Huron, Livingston, Mecosta, Montcalm, Newaygo, Saginaw, Schoolcraft, and Tri-County.

Several counties have only two members still unpaid: Bay, Barry, Branch, Emmett, Manistee, St. Joseph.

LOS ANGELES MEETING

THE American Medical Association will meet in Los Angeles June 27–30, 1911. Special trains to take Eastern doctors to the coast will be made up from Chicago over the various roads. The Santa Fe will have an excellent special train leaving Dearborn Station, Chicago, at 8 P. M., June 21. This train gives 28 hours at the Grand Canyon of Arizona and arrives at Los Angeles at 7 A. M. June 26.

The Burlington special train will leave Chicago at 11 P. M. June 21, making stop-overs at Denver, Colorado Springs, Salt Lake City, Rainbow and Arrowhead Canyons of Nevada, arriving at Los Angeles at noon June 26, both trains being in plenty of time for the first session of the Society. A round trip rate of $62.50 is offered from Chicago to Los Angeles, over either of the roads.

The Pullman rates from Chicago to Los Angeles are $7.00 for tourist sleeper and $13.00 for standard Pullman; or $16.00 for the standard Pullman, double lower berth, including the Grand Canyon side trip.

If one wishes, he may go by one route and return by the other at no extra charge, but returning by way of Portland will cost $15.00 extra. The rates from points in Michigan to the Chicago terminal will be one and one-half fares on the Michigan Passenger Association lines. The Grand Trunk Railroad will offer single fare for the round trip to Chicago.

It would be well for all of our members who contemplate taking this trip to make their reservations early. (See our advertising pages for addresses.)

THE LEGISLATURE

THE last session of the Legislature finally passed a very satisfactory Certified Milk Bill, copies of which may be obtained by addressing the Secretary of State or Dr. M. L. Holm, of Lansing, Michigan. This Bill provides for the production of Certified Milk, under the direction of a Medical Milk Commission, and is a modification of the so-called New Jersey law.

The Medical Bill proposed by the State Medical Society was not reported out of Committee.

The bill prohibiting certain classes of immoral advertising was passed, after striking out reference to "Contagious Blood Diseases."

A bill was passed requiring doctors to report occupational diseases. With the exception that these reports shall be made through the health authorities, the bill is as published in the JOURNAL for April, page 184.

The Chiropractic Bill was amended so that preliminary education equivalent to that necessary to enter the Medical Department of the University of Michigan was required. The bill was then further amended by striking out all but the enacting clause—a polite way of killing it.

IN MEMORIAM

Alexander Arthur McLarty, M. D., Detroit College of Medicine, 1893, of Manistee, a member of the Manistee County Medical Society and Michigan State Medical Society, supreme examiner of the Modern Romans, acting assistant surgeon U. S. P. H. and M. H. Service, died at St. Mary's Hospital, Rochester, Minn., March 27, after an operation for carcinoma of the stomach, aged forty-three.

Samuel Stuart Hackwell, of Blaney, aged 33, a graduate of the Detroit College of Medicine of 1905, a member of the Schoolcraft County and Michigan State Medical Society, died May 1st, while undergoing an operation for brain tumor.

COUNTY SOCIETY NEWS

BAY

April 10 nineteen members were present.

A communication from the mayor asked the Society to suggest three names for appointment on the Board of Health, of which number he would appoint one. An informal ballot resulted in the recommendation of Drs. Hammond, Goodwin and Ruggles.

Dr. A. W. Herrick reported several cases of good results with the use of large doses of quinine in pneumonia.

The paper of the evening was then read by Dr. S. E. Gustin, of Bay City.

The Disease—Inebriety.

[Abstract]

Inebriety is a diseased condition of the nervous system and will result after long persistence in any kind of drinking. The nerve cells, accustomed to the presence of alcohol, cannot perform their functions without it. Inebriety must not be confounded with its symptom, drunkenness.

Inebriety is not hereditary unless the mother is a hard drinker during pregnancy. The hereditary taint is transmitted, but 20 per cent of alcoholic inebriates are children of non-drinking parents.

Inebriety is a brain lesion causing a craving for liquors or their effects; while drunkenness is the effect produced by satisfying the craving. Thirst is not necessary. Many drinkers hate the drink, but want the effects.

Anything causing loss of nervous and mental control will produce inebriety. Alcohol is the American opium and cannabis indica the Asiatic intoxicants. Alcohol causes (1) vascular relaxation with exhilaration of the senses; (2) disturbances in and exaggeration of the faculties; (3) unconsciousness. In the latter condition the inebriate is often arrested and receives the doubtful justice of the police court.

A quart of whiskey at one drink has produced unconsciousness in three minutes and death in seven hours.

One to three quarts of whiskey is a common daily amount for an ordinary drunkard.

Two to eight gallons of beer has been consumed in a day with impunity. Wine and beer inebriates are numerous. Cider causes much drunkenness. Concentrated whiskey damages the stomach, liver and kidneys, while its dilution with hot water causes a more rapid and lasting intoxication. Idiosyncrasies cause great variations in the symptoms.

No authentic case of spontaneous combustion of an alcohol soaked body has been reported. The drunkard does not require whiskey or brandy as a stimulant after a debauch. No death has been reported after immediate withdrawal of alcohol in thousands of cases. Delirium Tremens is not caused by sudden withdrawal of alcohol, but is a nervous explosion resulting from alcoholic poisoning of the nervous system:

Alcohol is not a food as shown by the following:

Food

A certain quantity always produces the same effect.

Habitual use never produces a craving.

Sudden withdrawal after habitual use never causes deranged nervous system.

Causes no reaction.

Oxidized slowly in body.

Followed by increased excretion of carbon dioxide.

Followed by rise in body temperature.

Strengthens muscles.

Makes brain more active and accurate.

Alcohol

Continued use requires more to produce same effect.

Habitual use always produces a craving.

Sudden withdrawal always produces deranged nervous system.

Always causes reaction.

Oxidized rapidly.

Followed by decrease in body temperature.

Followed by fall in temperature.

Weakens muscles.

Makes brain less active and accurate.

Alcohol is a cellular poison. On reaching the stomach it is quickly absorbed and goes to the liver, acting first as an irritant, then as a sedative. Wine and beer produce fatty degeneration; brandy, whiskey and gin, cirrhosis.

Eighty per cent of moderate drinkers who have pneumonia die during the first week. Surgeons expect 25 per cent better results in non-drinkers.

One-tenth of all deaths in this country are directly or indirectly caused by its poisonous effects. 88 per cent of all ethyl alcohol is swallowed by man. 1-3 of 140,000 insane in public and private asylums are there as a result of alcohol. The disease seems to be here to stay.

Treatment—Inebriety must be treated as any other disease—the cause must be removed.

The regular drinker is more amenable to treatment than the periodic. There are three classes of regular drinkers. (1) those who have unconsciously continued until large amounts are necessary to produce effects and realize their condition; (2) those born with defective physique and unbalanced nervous system; (3) those who drink as a pure dissipation. The first class can be cured to stay, but the other two cannot.

The periodic drinker with a mental defect cannot expect a cure. If the outbreak is due to nerve explosion, environment or lack of character much may be expected from treatment.

The first and most important step is to cleanse the system from waste products, by causing the bowel, skin and kidneys to do many times their ordinary duties.

The stimulant should be withdrawn as rapidly as possible, regardless of the amount taken. All alcohol left in the blood must be eliminated and neutralized, craving overcome and a complete dislike produced. Emetics, diaphoretics, diuretics, purgatives and sedatives are used.

The paper was discussed by Drs. Baker, W. R. Ballard, Hauxhurst, Ruggles, Hoyt, W. W. Williams, Bradley, Stewart and J. W. Gustin.

April 24

The paper of the evening was read by Dr. A. F. Stone.

The Macroscopic Aspects of the Urine.

One will be surprised at the amount which can be learned from a routine macroscopic examination of the urine. The first drawn in the morning should be received in two glass tubes holding three or four ounces and labeled "1 and 2." The urine should be clear when first drawn. A red precipitate settling rapidly is due to urates. Phosphates produce a turbidity which disappears on adding acetic acid. Many drugs color the urine and must be borne in mind. Bile produces a color from greenish yellow to brown. Chyle produces a characteristic milky appearance. Blood produces a color ranging from light carmine to black. Found in both tubes it indicates kidney origin; in second only, bladder neck or prostate. Hemoglobinuria produces a Burgundy red color. A microscope is necessary to differentiate. Blood in first tube and clear urine in second indicates stricture or ulceration in anterior urethra.

A persistently turbid urine usually contains pus and bacteria Pus alone will produce a heavy sediment on standing. If the first tube is turbid and the second clear the infection is in the anterior urethra. If both are turbid we may suspect the prostate or bladder. If a third tube is turbid trouble may be in the bladder or kidney. Thick, heavy pus settling rapidly indicates pyelo-nephritis; stringy pus which does not settle is associated with the alkaline urine of cystitis.

Thin, long shreds of gonorrhea are from the anterior urethra and contain many gonococci. Tadpole shreds are from the deep urethra; filmy broad shreds from the prostate. The microscope and other methods must also be used.

Exacting care must always be used or the results are worse than useless.

Heller's test for albumin should be used instead of the heat and nitric acid test. The ring is unmistakable while slight traces may escape notice in the latter.

Specimens from a 24-hour urine give the only true guide to abnormal conditions. The 24-hour amount and its specific gravity is often of more importance than the amount of abnormal constituents as in chronic nephritis.

Specimens should be examined as soon as received. If this is not possible a few drops of chloroform should be added to prevent decomposition and fermentation, which produce great changes in urines containing albumin and sugar.

Careful filtration of urine before examination is necessary. The quantitative test for urea should be done in all urines containing albumin, as urea elimination is more important than the amount of albumin.

The urine of infants may be secured by placing a few folds of gauze over the parts. The urine is squeezed from the gauze. The urine of a child should be clear, and until the age of 11 or 12, the specific gravity should not go above 1010–1012.

The paper was discussed by Drs. Ruggles, W. R. Ballard, Brown, Bradley, Mary Williams, Trumble, Baker, Hauxhurst.

H. N. Bradley, *Secretary.*

BRANCH

Regular meeting of the Branch County Medical Society was held April 19, 1911, in the Y. M. C. A. Rooms, seven of the Society being present.

Dr. S. B. Frankhauser, of Hillsdale, was present

as a guest of the Society. Wm. H. C. Loveridge, of Coldwater, read a very interesting paper on Medical Jurisprudence. Dr. W. H. Baldwin read an excellent paper on "Chronic Urethritis." These papers were followed by a general discussion.

The Society adjourned to meet in July, which will be our annual meeting.

S. SCHULTZ, *Secretary.*

DICKINSON-IRON

The annual meeting of the Dickinson-Iron County Medical Society was held April 12th at St. George's Hospital, Iron Mountain, Mich.

The following officers were elected for the ensuing year: President, L. E. Coffin, Iron Mountain; Secretary and Treasurer, S. E. Cruse, Iron Mountain.

S. EDWIN CRUSE, *Secretary.*

EATON

At the regular quarterly meeting of the Eaton County Medical Society held in Charlotte April 27, those present listened to an exhaustive paper on Diabetes by Dr. A. W. Adams, of Bellevue. The paper was practical and encouraging, as under the doctor's management several cases have been apparently permanently benefited.

Rather a larger attendance than usual, and all well paid for being present.

A. H. BURLESON, *Secretary.*

GENESEE

Since February 28, the Genesee County Medical Society has been holding meetings every two weeks. At each meeting two or more papers have been read, with free discussions following

The regular quarterly meeting was held April 25. Three amendments to the constitution and by-laws were adopted, and several more amendments were placed on file to be adopted at the next meeting, May 25.

The Society adopted a new Fee Bill as presented by the revision committee.

Dr. F. B. Miner was unanimously elected Treasurer, and Dr. H. L. Charles, of Swartz Creek, was elected a member of the Society. Dr. D. Jickling presented a paper on "Anterior Poliomyelitis," and Dr. Wheelock read a paper on "Eclampsia." Both papers were well received.

Resolutions of the Genesee County Medical Society on the death of Dr. Charles S. Wheeler, of Flushing:

Resolved by the Genesee County Medical Society that in the death of Dr. Charles S. Wheeler, of Flushing, a former President of this Society, we have lost one of our most active members.

His considerations of the feelings of others, his many acts of kindness, the assistance given to younger practitioners, and his solicitude for their welfare, endeared him to all who met him.

Many young members in this Society owe their start to the assistance that was not asked, but offered by him.

Dying at a time of life when he should have had many more active years ahead of him, this Society feels keenly its loss, and extends to his wife our sympathy in her great bereavement.

Resolved that a copy of these resolutions be placed among the records of this Society, and that a copy be sent to his wife and a copy to the *Flushing Observer.*

H. E. RANDALL,
M. W. CLIFT,
N. BATES,
Committee.

C. P. CLARK, *Secretary.*

HILLSDALE

Our County Society held its last meeting in Hillsdale April 28. The program was as follows: "A Plea for a Return to a Simpler and More Rational Therapy," Dr. D. W. Fenton, Reading; "Tuberculosis in Children," Dr. Herbert M. Rich, Detroit.

Both addresses were excellent and were thoroughly discussed.

The Committee on "Newspaper Advertising," appointed at the last meeting, reported the following resolution, which was adopted by the Society:

"*Whereas*, the use by newspapers of the names of physicians in connection with the accounts of cases of illness, operations, etc., is often objectionable in that it is unethical and of the nature of advertising. Therefore be it

"*Resolved*, That the newspapers of the County be requested by the Hillsdale County Medical Society to refrain from using the names of physicians in connection with accounts of illness, operations, etc."

B. F. GREEN, *Secretary.*

LAPEER

The Lapeer County Medical Society met at Hotel Melanie, North Branch, April 11, eight members of the Society being present: Drs. J. O. Thomas

and L. A. Traphagen, of North Branch; J. P Eggleston and P E. Martin, of Imlay City, W. J. Kay and D. J. Obrien, of Lapeer, Dr. John S. Caulkins, of Thornville, and Dr. C. A. Wisner, of Columbiaville. Dr. C. D. Brooks, of Detroit, was present as guest of the Society, and read a paper on "Goiter." This paper was a very interesting and instructive one, and was thoroughly enjoyed by all the members present.

Dr. John S. Caulkins read a paper on "Who First Discovered the Circulation of the Blood." This was a very able paper, and showed great erudition and research by the doctor. After discussion of the papers read, the Society adjourned to meet July 11 at Lake Pleasant, near Imlay City.

C. A. WISNER, *Secretary.*

MANISTEE

Regular meeting of the Manistee County Medical Society was held in the parlors of the Ramsdell Hall, Tuesday evening, April 25, 1911. An excellent spread was served by the Committee in charge of refreshments, Drs. MacMullen and Ramsdell.

Members present: Drs. H. D. Robinson, L. S. Ramsdell, A. Payne, L. A. Louis, Harlan MacMullen, G. F. Knowles, R. J. Kirkland, J. A. Kelly, James A. King, E. S. Elles and J. A. Christenson.

Minutes of last meeting were read and approved.

This was the first regular meeting held since the death of our esteemed member, Dr. A. A. McLarty. Suitable resolutions of condolence were presented by Dr. James King, and it was moved and carried that a copy of these resolutions be sent to Mrs. A. A. McLarty, and that they be published in the two daily papers of our city.

Dr. H. D. Robinson read a very appropriate paper, "Eulogy of Dr. A. A. McLarty." It was moved and carried that this paper be published in the State JOURNAL.

Dr. A. S. Payne read one of the best papers ever presented to the Society on the subject of "Goiter." The doctor showed that he was well posted on the subject of goiter, and that he had spent no little time in preparing this most excellent paper. It was moved and carried that this paper be read at the annual meeting of the State Society, which is to be held in Detroit in September.

The greatest part of the evening was given over to a general eulogy of Dr. A. A. McLarty, and it was clearly shown by the talks given by members that in the death of Dr. A. A. McLarty our Society had lost a worthy member and the city had lost a beloved and exemplified citizen. Dr. McLarty had always taken a very active part, not only in the work of our local Society, but that of the State Society. We all deeply mourn the death of our esteemed and worthy member and colleague, Dr. A. A. McLarty.

J. A. CHRISTENSON, *Secretary.*

Dr. A. Arthur McLarty was born January 26, 1868, on a farm near St. Thomas, Ontario, and died March 26, 1911, of cancer of the stomach.

His parents were both of Scotch descent. His father died when the doctor was only fourteen years of age, leaving a wife and six children two older than the doctor. His mother, being a woman of more than ordinary ability, succeeded in keeping the family together and sent them to the district school, where each obtained a fairly good education. The doctor early expressed a desire to be a physcian, and his mother sacrificed many things so that he could gain his desire. He went from the district school to the High School in St. Thomas, Ontario, where he studied hard and graduated. He obtained a certificate to teach when he was nineteen years old, and taught school for three years, and thus obtained money to continue his studies.

He entered the Detroit College of Medicine in 1890, and his early training as a student enabled him to make good progress in the study of medicine, so that at the end of his second year he was chosen as an interne in Harper Hospital, which position he held for two years. He graduated in 1893, but remained at the hospital until the spring of 1894, when he located in Manistee, where he obtained a large practice. In his dealings with his brother practitioners he always tried to observe the rules of medical ethics, and never did he resort to any kind of trickery or underhanded methods to obtain business. In giving advice to his patients or their friends, whether in illness or for operations, it was the same as he would have any physician or surgeon give him if he were placed in the same position.

Probably few men who have taken up the profession of healing ever had a greater sympathy for a patient or took more personal interest in those who applied to him for help in their infirmities. Of no physician could it more truly

be said than of him, "he bore their sorrows and carried their burdens," and this was doubtless one of the causes contributory to his early dissolution.

He was of an extremely nervous temperament, and was unfortunately sensitive to every influence that assailed him. Combined with this was a rare conservativeness which always kept him from sudden leaps.

From his ancestors he inherited a frugality for which those who depend upon him have cause to be grateful.

He was a loyal friend and never a bad enemy. If there were those from whom he withheld friendship, there never was any hatred manifest toward such.

Regarding his religious views he often said, "I have sat by the bedside of many who consciously faced death, and I have always noted that sense of satisfaction and resignation in those who believed in a future life, and I know there must be something more for us all."

MONTCALM

We had an excellent meeting April 13th, with a large attendance. We had with us the president of the State Society, Dr. C. B. Burr, and Dr. Kampermann, of Ann Arbor, who presented a paper on the Surgery of Cancer of the Uterus. This was illustrated by lantern slides.

The rest of our program was carried out by our own members, and nearly all the members entered heartily into a discussion of these papers. At our next quarterly meeting we unite with the Ionia County Society in a midsummer picnic at one of the beautiful resorts for which these counties are noted.

One new member was received at this meeting.

H. L. BOWER, *Secretary.*

MONROE

At the regular quarterly meeting of the Monroe County Medical Society, held at Monroe, Michigan, on April 20, 1911, the following resolution was unanimously passed·

"Resolved that it is the sense of this Society that a re-registration tax of not to exceed two dollars be levied annually upon every practising physician in Michigan, for the support of the State Board of Registration in Medicine."

We feel that the State should support this Board, but as the Legislature has refused to make an appropriation, money must be raised for their support and good work. We hope that other county societies will take this step before the annual meeting of the State Society.

CHAS. T. SOUTHWORTH, *Secretary.*

OTTAWA

The May meeting of the Ottawa County Medical Society was held May 9 at the "Board Rooms" of the City Hall, Holland, Michigan.

A motion was made and passed that the President and Secretary be a committee to arrange time and place for the annual picnic to be held in June. Highland Park, near Grand Haven, was suggested as a suitable place for the picnic.

Dr. E. T. Brunson, of Ganges, read a paper on "Differential Diagnosis of Diseases of the Hip Joint." Dr. D. G. Cook, of Holland, read a paper on "Differential Diagnosis of Diseases of the Elbow Joint." Both papers were interesting and instructive and very freely discussed.

The next regular meeting will be on July 11, at the usual place.

G. H. THOMAS, *Secretary.*

WAYNE

At the meeting of the Wayne County Medical Society held Monday, April 10, the Surgical Section met. The subject was "Anesthesia," and Drs. E. G. Martin and J. D. Matthews took part. Dr. Martin read a paper on Gas-oxygen Carbon Dioxide Rebreathing Method and Dr. Matthews' paper was on Local Anesthesia.

Anesthesia: Carbon Dioxide–Gas-Oxygen Rebreathing Method

Dr. E. G. Martin's paper dealing with the most approved method of anesthesia, gas and oxygen-rebreathed (Report of Anes. Com. of A. M. A., St Louis, 1910) pointed out what seemed, from the authorities quoted and the reported laboratory investigations, to be a new, interesting, and important factor in the future of surgery, in its relation to shock and natural resistance. He demonstrated, through the investigations of Hamburger and Ewing, that even a fifteen minute administration of ether caused a progressive anemia of five and seven days' duration, thus lowering resistance and increasing the susceptibility to infection.

Through Yandell Henderson's extensive laboratory investigations, it was shown that a diminution of the carbon dioxide in the blood induced shock. Excessive pulmonary ventilation, as in rapid respiration from any cause, produces

symptoms of shock; patients are pale and weak and people say they are exhausted. Excessive artificial respiration (in a dog) for twenty minutes, causing extreme pulmonary ventilation, produces shock and a cessation of breathing, from which the heart finally stops; upon the administration of C O_2 gas, respiration is resumed and the dog lives.

In the administration of gas-oxygen-rebreathed, the writer maintained that we have found the ideal anesthetic; it combats shock through the rebreathing of the patient's own carbon-dioxide and decreases to a minimum the possibility of infection because it does not lower the patient's resistance. He termed this auto-stimulation.

By reports of his own and several hundred other cases he showed that this anesthetic could be administered from five minutes to over two hours with the utmost satisfaction. When complete relaxation was not obtained with the gas, ether was administered for five or ten minutes, returning to the gas, which then caused a continued relaxed condition. He finds a small dose of morphine and hyoscine, given about an hour preceding the operation, desirable. These drugs assist in allaying nervousness and in obtaining perfect relaxation.

In concluding the writer stated, that it was not his desire to propose this method as a panacea for all evils attendant upon anesthesia, but that if the clinical studies, experimental research, and conclusions of so many eminently reliable men were considered, it would seem that but little argument against its superiority as an anesthetic could be advanced.

A very simple, substantial and comparatively inexpensive inhaler was exhibited. This was Dr. Martin's own device.

Local Anesthesia

(Abstract of Dr. Matthews' paper:) It is not quite accurate to state that the infiltration of tissues produces anesthesia. Analgesia is the more suitable term, inasmuch as, though no pain is felt, the patient can often tell the nature of the instrument that is being used, because sensation is not completely lost. The analgesia is produced by the deadening of the superficial nerve endings.

There are two methods, namely: (a) the regional method, which requires an accurate knowledge of the nerve distribution in order to carry out the technique, and (b) the infiltration method, which does not require any such accurate knowledge. This latter method is very simple, no anatomical knowledge being necessary in order to carry out its technique satisfactorily.

These two methods are still in vogue in certain localities, but the method devised by Hachenbruch (a modification of the infiltration method) seems most practicable to the writer. It consists in injecting the fluid so as to encircle the field of operation completely. (This method was described in detail.) Great care must be exercised in selecting the local anesthetic solution. According to Brown the following features are necessary: (a) Lower degree of toxicity than cocain in proportion to anesthetic power; (b) sufficient solubility in water and capable of being sterilized; (c) non-irritating to the tissues; (d) compatibility with adrenalin; (e) rapid penetration of the mucosa and readily absorbable.

Compatibility with adrenalin is desirable because this drug prolongs the analgesic effect of any solution.

The solution most popular in some of the great clinics is novocain; beta-eucain, stovain and tropocain are really in the same category.

These papers were discussed by Drs. MacMillan, Hirschman, Harold Wilson, Tibbals, Kidner, Van Amber Brown and Straith.

Dr. Emil Amberg reported a case of mastoid disease in which transillumination had been of great diagnostic aid. He also exhibited and gave a practical demonstration of the instrument he had used.

Dr. Willis Potter made a few remarks on the usefulness of transillumination in Mastoid Disease.

At the meeting of the Wayne County Medical Society held Monday, April 17, Dr. Charles W. Hitchcock gave a short resume of the life and work of the late Dr. Leartus Connor, one of the oldest and most active members of the Society, and a man whose loss will be noticed by the Society in no small degree.

Dr. Hitchcock said:

"No ordinary loss is ours. We are met to mourn the going out, not of an ordinary member, who came and went with casual indifference, but the departure from among us of a man of great purpose and lofty integrity, one who ever rang true to high ideals, who went in and out among us, ever the highest type of manhood, the Christian gentleman, a man honored alike in local, State, and national councils. Where anything that deeply concerned the highest interests of the medical profession was discussed, Dr. Connor was

sure to be found. Where the problems of medical sociology were to be worked out, there was Dr. Connor busily active. No idler's dream was his; he never sought surcease from toil. He has but now laid aside his pen and answered the summons to enjoy the rest which he had so well earned and to which he had hoped to go, only when he *must* leave the work which he so loved.

"Leartus Connor was born January 29, 1843, in Orange County, New York. He died in Detroit early on Easter Sunday morning, April 16, 1911.

"The district schools, Wallkill Academy, and Williams College gave him his early training, the latter institution conferring upon him the degrees of A. B. in 1865 and A. M. in 1868. The discipline of teaching, the leisure hours of which were filled with scientific study and the earliest reading of medicine, well equipped him for the medical course which he followed at the University of Michigan (1867–68) and the College of Physicians and Surgeons of New York City for two years following, and here he gave much attention to diseases of the eye and ear, the specialty in which he was to be so well and widely known.

"He located first at Searsville, N.Y., but in 1871 came to Detroit to fill the chair of chemistry in the Detroit Medical College, subsequently teaching physiology and diseases of the eye and ear. He has been variously connected with the hospitals of Detroit, and became widely known as a medical editor.

"Dr. Connor believed it ignoble for any institution to lower its standards with an eye to possible commercial advantages, and steadfastly pleaded for a better profession through increasing standards of requirement. In private life or public, his ideals were high. He loved the genuine; he hated a sham. He was looked up to and respected for the high stand which he took. He served the American Medical Association both as vice-president and as trustee. He was president of the Michigan State Medical Society in 1902, and was pleased to find the profession of Michigan ready for the reorganization which he so warmly advocated, and which has conduced in no small degree to promote the prosperity which this Society at present enjoys.

"The American Academy of Medicine numbered him among its active workers, and he has contributed generously to general and special medical literature. He was active in many local bodies, religious, commercial and other. There were few worthy fields of active life where Dr. Connor's abilities and interest were not sought. His home during the life of Mrs. Connor was known for its delightful hospitality, which many medical men of State and national reputation have enjoyed. Dr. Connor is survived by two sons, both members of this Society.

"The local profession delighted to honor Dr. Connor but a few weeks ago upon completion of forty years of practice.

"A busy life is closed, its lessons are for us. The ancient proverb said, 'Seest thou a man diligent in his business? He shall stand before kings; he shall not stand before mean men.' And another proverb from the same source read, 'A good name is rather to be chosen than great riches,' and another, 'As he thinketh in his heart, so is he,' and so Dr. Connor was pure of life and lofty of purpose, of unswerving integrity, of high ideals, of unfailing industry, such an one as the King delighteth to honor. 'Integer vitæ scelerisque purus.'

"May we not soon forget this full, earnest, active, well-rounded life, which we do well to emulate.

"And may these poor words be spread upon our records as a slight tribute to Leartus Connor:

> "'I care not in these fading days
> To raise a cry that lasts not long,
> And round thee with the breeze of song
> To stir a little dust of praise.
>
> "'So here shall silence guard thy fame,
> But somewhere, out of human view,
> Whate'er thy hands are set to do
> Is wrought with tumult of acclaim.'"
>
> [TENNYSON: In Memoriam.]

Out of respect to Dr. Connor all further business was dispensed with, and the meeting adjourned to the following Monday.

The joint meeting was conducted by the Detroit Retail Pharmacists Association, with the President, William A. Hall, in the chair. Mr. Hall introduced Henry P. Hynson, Professor of Pharmacy in the Baltimore College of Pharmacy, as the speaker of the evening. Mr. Hynson's subject was "Present, Potent and Promising Activities for Promoting More Harmonious Relationship between Physician and Pharmacist." Mr. Hynson first spoke of the objectionable practices by both physician and pharmacist which stand in the way of such harmonious relationship. These he summed up as follows:

a. Such incompetency of the pharmacist as prevents him from meeting the reasonable demands of the physician and makes him incapable of properly selecting, caring for and dispensing medicinal substances in accord with modern methods and in conformity with more recent pharmaceutical accomplishments; the inability on the part of some physicians to appreciate creditable pharmaceutical attainments or to differentiate between the true and the false in pharmacy, also a want of care in estimating the comparative values of standard, properly manipulated products and those that are the reverse.

b. The unpardonable evil doing on the part of the unworthy pharmacist (which is much less common than is sometimes represented) known as substitution; unnecessary and inconsiderate specifications, and prescribing of commonplace proprietary mixtures by physicians.

c. Disregard of the wishes of the physician regarding the refilling of prescriptions by pharmacists, and unwillingness to protect the pharmacist against the unreasonable demands of the customer by the physician.

d. The advertisement and sale of "patents," nostrums and "Our Own" specifics by the pharmacist, and the recommendation of preparations in "original packages" and stock bottles of pills, tablets, etc., by physicians.

e. Reckless and non-emergency prescribing by pharmacists and unnecessary and commercialized dispensing by physicians.

f. Undignified and unwarranted subservience to "side lines" by the pharmacist, and the making of undue and very unbecoming claims on the pharmacist for his patronage by the physician.

The truth of all these assertions Mr. Hynson proved by history, by extracts from the writings of leading physicians and pharmacists, and evidence that came to him in a practical manner during twenty-five years' experience as a practising pharmacist.

The pure food law enacted in 1906 had, in the speaker's opinion, a great deal to do with improving many objectionable features which stood in the way of harmonious relationship between physicians and pharmacists.

Mr. Hynson spoke of the Pharmacopeia as the standard for pharmaceutical preparations, and said no effort should be spared in making it the very best.

As for non-official remedies he gave what he considered the ideal method of selecting the useful products of this class. Select an able committee to pass on these products, and then abide by its decision and use only those preparations which it recommends. Such a committee with the employment of such a method is, however, exactly what we have in the Council of Pharmacy and Chemistry of the A. M. A.

The speaker then continued and explained the admirable work that this Council of Pharmacy and Chemistry has done and is continually doing. It is giving both to the pharmacist and the physician, in a very condensed form, a list of the useful and efficient proprietary products. It remains only for the physician and pharmacist to use these and only these.

That pharmacists now are admitted into the American Medical Association as members has also, in the speaker's opinion, assisted materially in promoting more harmonious relationship between physician and pharmacist. He hoped that more pharmacists would avail themselves of this opportunity. He believed that a pharmacist could derive great benefits from this source, especially by subscribing for and reading the *Journal of the American Medical Association.* The pages dealing with "Therapeutics" and "The Propaganda for Reform" are full of valuable information for the pharmacist as well as for the physician.

In the discussion of this subject Dr. Chittick, Mr. L. A. Seltzer, Dr. L. J. Hirschman, Mr. A. L. Walker, Dr. Flemming Carrow, Mr. A. S. Parker and Mr. A. B. Stevens, of Ann Arbor, took part.

At the meeting of the Wayne County Medical Society, held Monday evening, April 24th, Col. L. M. Maus, U. S. A., Chief Surgeon, Dept. of the Lakes, spoke on

Venereal Prophylaxis as Practised in the Army

Abstract: Venereal disease dates back to the ancients even as far back as the time of Moses. From that time to the present there has been going on a continual crusade against this disease. This crusade has consisted in moral persuasion, in endeavors to teach the public that intercourse is not necessary for a proper enjoyment of health, and in numberless other methods, all directed to uplift the moral tone of nations, and thus, in an ideal manner, wipe out these dreaded diseases. In spite of all, conditions during the present generation are worse than ever. Over two million people in the United States are suffering from syphilitic infection, 40% to 50% of the abortions are due to syphilis, and in a large proportion

of women operated upon for pelvic disease the causative factor is gonorrhea, very often innocently acquired from a guilty husband. All these statistics prove that the methods adopted to abolish this disease have been futile. It is silly to try and convince ourselves that by controlling the passions of youth we can remedy this evil. We must resort to some other method, and the only method at our command is personal venereal prophylaxis.

The Germans, twelve years ago, first practised this method. Metchnikoff, by inoculations on animals and man, demonstrated beyond question of a doubt that a 33% calomel paste will control syphilitic infection.

In the United States Army, a box of blue ointment and a solution of 10% argyrol or 5% protargol have been used for some time. Immediately after contact the former was to be applied to the glans penis, and with a medicine dropper the latter was to be dropped into the urethra. When used properly this method proved itself quite efficient, but it has fallen into disuse on account of being too cumbersome and too big to carry. Besides, the speaker did not think argyrol or protargol of much benefit, as it has been proven recently that the gonococci can live in strong percentages of these solutions for as long as twenty hours.

About a year ago the speaker undertook a series of experiments: Normal urethræ were inocolated with virulent gonococcus pus, and twenty minutes after a paste containing 30% calomel and 10% argyrol was injected, and no gonorrhea resulted. These same inoculations were repeated with 25% and 20% calomel plus the argyrol, and finally only a 20% calomel paste was injected thirty minutes after the inoculation. In no case did a gonorrhea develop. A Chicago doctor made these same experiments on Greeks, Italians, on private patients, on the eyes of a litter of puppies, and finally on himself with the same happy results. Seven hundred and fifty men in fourteen hundred contacts have used this calomel paste and only two cases of gonorrhea resulted. The speaker was of the opinion that in these two cases the paste was not properly used.

Calomel paste, therefore, is the great gonorrheal prophylactic, and the speaker is now having flexible tubes made, convenient for one injection with phenol 3%, calomel 25% and lanolin 72% (several of these tubes were passed around for inspection).

Dr. Maus said emphatically that he did not wish to convey the idea that education and moral persuasion should not be resorted to, but if these fail we are forced to use some personal prophylactic measure until such a time has come when the more ideal method shall have become practical.

The discussion of this subject was opened by Dr. Biddle, and continued by Drs. Keane, H. O. Walker, Stafford, Hirschman, C. S. Morley, Carstens, Yeamans, Rolland Stevens, Carr and Barlow.

Dr. Hugo A. Freund exhibited a specimen from a case of primary carcinoma of the liver causing non-malignant stricture of the esophagus.

Dr. Wm. J. Cassidy reported two interesting cases of resection of the large bowel for carcinoma from the service of Dr. Angus McLean.

At the May 1 meeting of the Wayne County Medical Society the medical section met. Dr. C. M. Stafford read a paper on "Immunity Production in Acute Infection."

Dr. Stafford's paper will appear in full in the JOURNAL in an early number.

At the meeting of the Wayne County Medical Society, May 8th, Dr. W. E. Blodgett exhibited two interesting cases of bone syphilis. Radiographs of these cases, taken by Dr. George Chene, were shown, and these proved to be of great diagnostic value.

The paper of the evening was read by Dr. Angus McLean on

The Surgeon's Greatest Apprehensions as Learned from Three Years' Surgical Experience

Abstract: In all, there were 2036 cases operated upon during that time. The results obtained in these cases were in a measure due to the improvements in the technique of modern surgery and to the use of the newest laboratory methods, as well as the other aids to diagnoses, such as the cystoscope, the radiograph, etc.

The anesthetics used were ether, drop method, 94% nitrous oxygen, oxygen 4%, and chloroform 2%. Not a single death occurred.

Of 2036 patients operated upon, sixty-nine died, a mortality of 3.3%. Of the sixty-nine that died twenty-three were moribund on admission or when first seen, and died within twenty-four or forty-eight hours, either from intestinal obstruction, ruptured appendix, gall-bladder or bowel; eight died of exhaustion following operations for malignant disease which were only palliative; seven died of shock following injuries or burns; three of puerperal septicemia; one of typhoid fever; one of an infection by the bacillus

aerogenes capsulatus. These deaths, forty-three in all, can hardly be attributed to surgery, for in each case death was not due to surgery, but rather to the lack of surgery at the proper time or to an overwhelming injury.

The remaining twenty-six deaths must to a greater or lesser degree be attributed to surgical interference. Of these twenty-six, five died of peritonitis, four of embolus, two of cardiac thrombosis, six of post-operative ileus, one of cerebral hemorrhage, one of inanition following a resection of about two and one-half feet of bowel, one of acute pancreatitis, one of tetanus, two of hypothyroidism. There was a mortality directly due to surgical interference of twenty-six, a mortality of 1.2%.

The more important operations after which the deaths have occurred were taken up. The writer concluded that early operation, i. e., before complications are present, is the only sure way of reducing the mortality. As an example he gave appendix operations. In his series there were 265 early operations or operations in which drainage was not necessary, and 131 late operations or operations in which drainage was necessary. In the former he had no mortality, in the latter there was a mortality of 12%.

In all except one of the 17 cases of peritonitis moribund on admission, the infection started in the appendix.

This frightful mortality could have in a great measure been avoided had these cases been seen and operated upon early.

The greatest mortality after surgical interference is in the writer's opinion due to the two unavoidable conditions ileus and thrombus with a resulting embolus.

For ileus stomach lavage, and if this does not relieve the condition promptly, early enterostomy was advocated. Enemata in the writer's opinion do not benefit the condition very materially.

For thrombus and embolus treatment of any kind is of little avail.

Operations in the pelvis, in which the broad ligaments suffer considerable manipulation or even extra peritoneal operations in the pelvis, such as prostatectomies, were considered as being more liable to be followed by thrombus or embolus than operations elsewhere in the body.

The paper was discussed by Drs. H. O. Walker, Longyear, F. B. Walker, Robbins, James McMillan and Spitzley.

Dr. Alexander Blain was unanimously elected chairman of the surgical section for the year 1911–1912. By ballot Dr. G. H. Palmerle was elected secretary.

MEETINGS HELD AT THE HOME

On Saturday, April 29th, the Polyclinic Society of Harper Hospital met. Dr. J. N. Bell read a paper on "Cesarian Section."

On Tuesday, May 2nd, Ophthalmological and Otological Club met. Dr. Eugene Smith read a paper on "Embolic Choroiditis."

On Tuesday, May the 9th, the Detroit Oto-Laryngological Society met. This was the last meeting of the season. The program was as follows: 1. Retiring President's address, by Dr. E. L. Shurly. 2. European Experiences, by Dr. H. J. Hartz. 3. Election of officers. The election resulted as follows: *President*, Eugene Smith; *Secretary*, Emil Amberg.

The Society now has twenty-six active members and one honorary member.

Next year the meetings of this Society will take place on the third Tuesday of every other month.

A dinner was tendered the Society by the retiring President.

THE CAFE

The cafe at the building is now under the excellent management of Mrs. Nelson, for many years manager of the Palms Cafe. She serves an unexcelled table d'hote luncheon at very reasonable prices, from 12 to 2 P. M., with a limited but ample service of cooked to order food. Twenty or thirty men lunch at the building every day, and thoroughly enjoy the relaxation from work and the social intercourse with co-workers for which tasty and highly edible viands furnish the excuse. Some of the men play a game called "Rum," which is not as wicked as it sounds. The rest are learning it. Ten per cent. of the winners' surplus is now being donated to the House Committee, and the new auditorium is almost in sight. We would like to see every member who lunches down town get into the habit of lunching at the building. The food is as good and the prices as low as in any good restaurant, and we must support the cafe heartily (or hungrily, if you like) in order to maintain it on a basis giving a margin of profit to the manager. We want you to come at noon and at other times as well. Mrs. Nelson is prepared to serve meals in the evening for a few fellows who may drop in. If you want anything special, better order by

telephone. You may use the building for an evening card game or an hour in the library, with dinner there instead of elsewhere. We now have the facilities for giving banquets no matter how elaborate, and any out-of-town medical man can now be entertained as well, and we think better, in our cafe than anywhere in town.

LIBRARY NOTES

The library has been growing very rapidly. During the winter several large collections of books have come in, among them about 1750 from the late Doctor Connor, and some 700 from Parke, Davis and Company. The Connor collection included many files of journals, beautifully bound. These completed some of the sets which had been begun, and we now have some very valuable files.

A recent gift was that of a practically complete set of *American Journal of Insanity*, which Dr. Emerson has donated. All but the last ten years are handsomely bound, making one of the most valuable sets which we possess.

The reading room is supplied with 78 of the better class journals and a number of the less important. The library committee raised a sufficient sum to pay for these, and thus far nothing has been taken out of the general funds for the purchase of books, or for subscriptions to journals.

The collection of papers from the Mayo Clinic which has been published by Saunders, has been added to the library.

The work of sorting, accessioning and cataloguing the books is progressing slowly but gradually. It requires time to do this work properly, but when once done it is done for all time.

The library numbers not far from 7,500 non-duplicates. In the little room off the stack-room are nearly 3,000 duplicates. Many of these journals are bound journals, and will be used for exchange with medical libraries.

R. C. ANDRIES, *Correspondent.*

MICHIGAN REGISTRATIONS SINCE LAST REPORT

Name	Address	College	Qual.	Native of	Date
White, Perry Eugene	Flint	Northwestern Univ. Med School, Chicago, 6-4-08	Rec. with Illinois, Qual. No. 1	Hull, Iowa	3–17–11
Winchester, Walter Henry	Flint	College of Phys.and Sur., N. Y. City, Columbia Univ., 6-13-1900	Rec. with Wis., Qual. No. 1	River Falls, Wis.	3–23–11
York, Harry Jacob	Detroit	College of Phys. and Sur., N. Y. City, 6-8-04	Rec. with New York, Qual. No. 1	Huntingdon, Pa.	3–28–11
Thompson, Lewis Royer	Dowling	Geo. Washington Univ., Washington, D. C., 6–3–08	Rec. with Dist. of Col.	Collegeville, Pa.	3–30–11
Rowe, Allen Donald	Ann Arbor	Homeo. Dept. U. of M.	Board Exam., June, 1910	Mason, Mich.	3–31–11
Greco, Vincenzo	Detroit	Univ. of Palermo, Italy, 7–9–96	Rec. with New York, Qual. No. 1		4–7– 11
Thornburgh, Frank Colfax	Dundee	Homeo. Med. Coll. of Missouri, St. L., Mo., 4-14-04	Rec. with Missouri, Qual. No. 1	Numa, Iowa	4–24–11
Carling, William Monroe	Battle Creek	Medico-Chirurgical Coll. of Phil., Pa., 5–18–97	Rec. with New Jersey, Qual. No. 1	Trenton, N. J.	4–25–11

NEWS

Born to Dr. and Mrs. Wm. E. Blodgett, of Detroit, twin boys on May 18.

Dr. Burt R. Shurly, of Detroit, is the proud father of a son, Burt Russell, Jr., born March 14.

Dr. David M. Kane, of Sturgis, is studying in Berlin, and expects to be abroad about three months.

Drs. Ray and Guy L. Connor announce the removal of their offices from 91 Lafayette Boulevard to Suite 703 Washington Arcade, Detroit.

Dr. B. R. Schenck announces the removal of his office from the Washington Arcade to Rooms 606–610 Shurley Building, 32 Adams Ave. W., Detroit.

The Michigan State Board of Health on April fifteenth declared acute anterior poliomyelitis a dangerous communicable disease, and hereafter it must be reported to the Health Department by all physicians.

Dr. A. S. Warthin, of the Medical Department of the University of Michigan, delivered an address at a meeting of the International Association of Medical Museums, Chicago, April 13. Dr. Warthin is President of the International Association.

Additional Michigan physicians have been appointed by the President to the Medical Reserve Corps of the Army, to rank as First Lieutenants from April 24, 1911, as follows: Willis E. Chapman, Cheboygan; Vernon J. Hooper, Detroit; Peter Duncan MacNaughton, Calumet; John Vernon Frazier, Lapeer; Earnest W. Haass, Detroit; and to rank from April 27, Charles Franklin Smith, Whitehall.

Governor Chase S. Osborn sent the following names to the State Senate as his nominations for places on the State Board of Medical Registration and Examination: Dr. Henry C. Maynard, Hartford, to succeed himself;Dr. A. M. Hume, Owosso, to succeed Dr. Fleming Carrow, Detroit; Dr. Bret Nottingham, Lansing, to succeed himself; Dr. Joseph A. Crowell, Iron Mountain, to succeed Dr. Theodore A. Felch, Ishpeming, and Dr. A. W. Alvord, Battle Creek, to succeed himself. Nominations confirmed.

COMMUNICATIONS

ANN ARBOR, Michigan, May 2, 1911.

TO THE EDITOR:—

I desire to say just a word relative to the proposition of membership in the State Medical Society carrying with it membership in the A. M. A. I wish to say that I am in entire accord with the idea, provided certain rather radical changes can be made. I believe that the sum of six dollars per annum per member is ample to provide for all necessary expense pertaining to County, State, and National Association, including JOURNALS, Medical Defense, etc. Although the mathematical problem involved is rather complicated, yet I think I have been able to figure out the American Medical Association at the present time has to its credit a net sum of $200,000. Pray tell me for what and for whom this vast accumulation? Just which ones of our posterity are going to get a "dip in" at this? Just so, only on a smaller scale, in our own State Society. We are looking now continuously for the best possible investment of our surplus. Of course I believe in having money in the treasury. Certainly I do. But I maintain that there is a wide distinction between arrant commercialism, and a high scientific standard and a broad humanitarianism and the necessities of the case. Shades of Nathan S. Davis and Edward M. Moore! Could they but look in upon us.

JOHN A. WESSINGER,
Sec-Treas. Washtenaw County Medical Soc.

[The expenses of our State Society exceeded the receipts during 1910 by $38.26. We are doing more for our members this year, giving reprints to authors of original articles.—EDITOR.]

UNITED STATES POST OFFICE,
Battle Creek, Mich., May 3, 1911.

PUBLISHER JOURNAL MICHIGAN STATE MEDICAL SOCIETY, CITY.

Dear Sir:—Relative to the time-limit on subscriptions which have expired on January 1, 1911, on your JOURNAL, the regulations provide for the period of four months to renew such subscriptions, after which time postage must be paid at

the transient rate of one cent for four ounces or fraction thereof.

All subscriptions which are not paid by May 1, 1911, could not be sent as second-class matter after that date.

Respectfully,
(Signed) M. S. CURTIS, *Postmaster.*

BOOK NOTICES

Vaginal Celiotomy. By S. Wyllis Bandler, M. D., Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital. Octavo of 450 pages with 148 illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5 net; half morocco, $6.50 net.

This book is devoted entirely to one subject. It is consequently a highly specialized digest of that subject. Nevertheless each step in the operation is so plainly described and illustrated that an experienced operator will have no difficulty in appreciating the many advantages of the Bandler methods.

The text is clear and to the point. No space is wasted in useless explanation leading up to the actual work under contemplation, but with a delicate consideration for an intelligent audience, a straightforward description of vaginal celiotomy is given in language as simple, clear, concise and brief as a thorough and comprehensive description of this comparatively recent maneuver can be given and secure to the reader a full understanding of the methods described.

The one hundred and forty-eight illustrations are simply indispensable. They not only perfectly illustrate the text and secure a good understanding of the complicated maneuver, but by their clearness, distinctness, and size, being mostly full-page, lend an artistic charm and scientific value otherwise unattainable.

As more and more attention is paid to vaginal celiotomy, this book will find favor with an ever increasing number of operators.

Diseases of the Stomach and Intestines. By Boardman Reed, M. D., illustrated. Third edition, thoroughly revised and largely rewritten. New York: E. B. Treat & Company, 241-243 West 23d Street, 1911. Cloth, $5.

The third edition of "Diseases of the Stomach and Intestines" by Boardman Reed, M. D., will no doubt be as eagerly sought after as the preceding two volumes have been.

The style in which it is written is lectures. Each chapter represents an exhaustive lecture on the subject considered. All phases are handled, many references are given, citations are numerous. All laboratory tests are carefully described. In fact, every effort is made to help one to arrive at a correct and positive diagnosis.

On treatment the book is especially strong. Suggestions for controlling each phase of the case are interspersed throughout the text, closely following the description of the condition; thus giving the reader the advantage of considering treatment at a time when his mind is filled with the case and when he is best prepared to receive it, also when he is especially in position to consider the rationality of the measures presented.

The subject treated in this work is coming more and more into prominence, and demanding more and more of the practitioner's time. He that neglects gastric and intestinal ailments, be they from dietetic, functional or organic causes, will find his patients gradually but surely seeking the advice of his colleagues. In this book so much of value is condensed that a perusal of its pages will be of enormous advantage both to specialist and general practitioner.

Plaster of Paris and How to Use It. By Martin W. Ware, M. D., New York, Adjunct Attending Surgeon, Mount Sinai Hospital, Surgeon to the Good Samaritan Dispensary, Instructor of Surgery in the New York Postgraduate School. Second edition, revised and enlarged. Price, cloth, square form, $1.25. De luxe leather, $2.50. Surgery Publishing Co., New York.

The exhaustion of the first edition and the persistent demand for this helpful book were the incentives for this second edition, which has been completely rewritten and enlarged, and thus its scope of usefulness has been greatly extended. Complete new drawings and marginal side-notes in red embellish the book, and ninety illustrations are used to more clearly put up to the eye of the reader the intent of its subject matter.

Such information as History, Materials, Manufacture of Bandages, Storage, Bandages of Commerce, Calot Plaster Bandages, the Immediate Preparation of Bandages, Application and Precaution, Removal of Bandages, etc., are all given under the contents of "The Plaster of Paris Bandages." Then follows such chapters as Application of the Plaster of Paris Bandage to Individual Fracture, Fractures of the Upper Extremity, Fractures of the Lower Extremity, Moulded Plaster of Paris Splints, Plaster of Paris in Orthopedic Surgery, etc., and all presented in such a comprehensive manner as to make this book of particular service to every doctor. The mechanical features of the book are decidedly striking.

MICHIGAN STATE MEDICAL SOCIETY

Corrections to the list of members published in the May Journal as shown by the records in the office of the Secretary on May 27, 1911. Having paid their dues for 1911, the stars have been removed from the names of the following members, and there has been no break in their good standing in the Society.

ANTRIM CO. MEDICAL SOCIETY

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Mohler, O. D., Hastings
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Russel, C., Hastings
Ryan-Roehrig, Alice M., Hastings
Sheffield, F. G., Hastings

BAY COUNTY MEDICAL SOCIETY

Ballard, S. L., Auburn
Flynn, M., Bay City
Jones, A. M., Bay City
Keho, John A., Bay City
Morse, H. Beach, Bay City
Scrafford, R. E., Bay City
Stone, A. T., Bay City
Urmston, Paul R., Bay City
Warren, E. C., Bay City

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Gowdy, F. M., St. Joseph
Schwendener, Hattie A., St. Joseph

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Howe, L. W., Coldwater
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Turner, S. R., Batavia
Whitmore, R. C., Quincy
Whitmore, H. W., Quincy
Wood, D. H., Coldwater

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Eggleston, E. L., Battle Creek
Foster, I. C., Albion
Gething, J. W., Battle Creek
Gorsline, C. S., Battle Creek
Hobbs, E. J., Galesburg
Holes, Jesse J., Battle Creek
Hoyt, A. A., Battle Creek
Kellogg, J. H., Battle Creek
Kingsley, A. F., Battle Creek
Marshall, E. J., Marshall
McGregor, Arch, Battle Creek
Miller, Eugene, Battle Creek
Nelson, A. W., Battle Creek
Mortensen, M. A., Battle Creek
Powers, H. A., Battle Creek
Putnam, W. N., Battle Creek
Riley, W. H., Battle Creek
Risley, E. H., Los Angeles, Cal.
Sands, T. E., Battle Creek
Shipp, W. S., Battle Creek
Sleight, R. D., Battle Creek
Staines, Carrie, Battle Creek
Stone, R. C., Battle Creek
Stoner, L. B., Battle Creek
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Schilz, E. A., Grand Ledge
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Moon, W. E., Traverse City

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Kirton, J. R. W., Phoenix
Lee, S. S., Osceola
Maas, R. J., Houghton
McDonald, N. S., Hancock
Moore, J. W., Atlantic Mine
Orr, G. W., Lake Linden
Quick, J. B., Kearsarge
Roche, A. C., Kearsarge
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Shaw, E. F., Will amston
Turner, F. N., Webberville

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Spencer, C. M., Free Soil
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Fairbanks, C. H., Grand Rapids
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Doherty, V. C., Grand Marias
Lunn, W. B., Marquette
Sheldon, H. W., Negaunee
Toms, C. B., Marquette
Van Riper, P., Champion

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Foster, T. J., Scottville
Kerwin, E. J., Ludington
Martin, W. C., Scottville
Switzer, G. O., Ludington

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Longstreet, Martha, Saginaw
McLean, Neil, Saginaw

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VanLiew, V. C., Lennon
Willson, P. S., Owosso

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DeGurse, T. E., Marine City
Derck, W. P., Marysville
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Inches, J. W., St. Clair
Thompson, A. E., St. Clair
Wright, W. G., Yale

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Boet, Frank, Buckley
Brodner, R., Cadillac
Gruber, J. F., Mesick
Harper, A. W., Manton
Huntley, U. F., Manton
McManus, E. A., Sherman
McMullen, B. H., Cadillac
Miller, C. E., Cadillac
Miller, G. D., Cadillac
Mills, R. E., Boon
Moore, S. C., Cadillac
Morgan, Edw., Manton
Ralston, David R., Cadillac
Ricker, O. L., Cadillac
Smith, W. J., Cadillac
Stickley, A. E., Mesick
Purdy, C. S., Wexford
Wallace, W. B., Manton
Wardell, J. M., Cadillac

TUSCOLA COUNTY MEDICAL SOCIETY

*Clark, C. W., Caro
*Johnson, O. G., Fostoria

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Barrett, A. M., Ann Arbor
Baskett, L. W., St. Peters, Minn.
Blair, William, Ann Arbor
Breakey, J. F., Ann Arbor
Breakey, W. F., Ann Arbor
Britton, H. B., Ypsilanti
Camp, Carl D., Ann Arbor
Canfield, R. B., Ann Arbor
Carr, E. I., Ann Arbor
Clifford, R. A., Ypsilanti
Combacker, L. C., Byron Hot Springs, Calif.
Cowie, D. M., Ann Arbor
Crawford, Katherine L., Oakland, Calif.
Cummings, H. H., Ann Arbor
DeWitt, L. H. S., Ann Arbor
DeNancrede, C. B. G., Ann Arbor
Gates, N. A., Ann Arbor
Georg, C., Jr., Ann Arbor
Georg, C., Sr., Ann Arbor
Griffin, O. A., Ann Arbor
Gulde, Andrus, Chelsea
Haythorn, S. R., Pittsburg, Pa.
Heitger, Joseph D., Bedford, Ind.
Herdman, E. K., Ann Arbor
Hewlett, A. W., Ann Arbor
Honeywell, B. H., Ann Arbor
Honey, R. B., Dexter
Huber, G. C., Ann Arbor
Hull, G. M., Ypsilanti
Joyce, T. M., Ann Arbor
Kamperman, G. A., Ann Arbor
Keating, J. W., Ann Arbor
Kline, G. M., Ann Arbor
Klingman, T., Ann Arbor
Laws, C. S., Whitmore Lake
Leland, R. G., Mendon
Loree, I. D., Ann Arbor
Lynds, J. G., Ann Arbor
Marshall, Mark, Ann Arbor
McKenzie, Robert G., Ann Arbor
Merkel, Chas. W., Ann Arbor
Mesic, A. G., Milan
Murray, E. B. (Miss), Ypsilanti
Noble, Kenneth, Milan
Oberlin, Emily Myers, Philadelphia, Pa.
Pearson, H. J., Ann Arbor
Peterson, R., Ann Arbor
Pettis, J. H., Ann Arbor
Pyle, D. F., Milan
Roth, George B., Ann Arbor
Scheurer, P. A., Manchester
Schmidt, H. W., Chelsea
Slocum, George, Ann Arbor
Solis, J. C., Ann Arbor
Unterkircher, Charles F., Saline
Uren, C. T., Ann Arbor
Van Zwaluwenberg, J. G., Ann Arbor
Vaughan, V. C., Sr., Ann Arbor
Waldron, F. R., Ann Arbor
Wallace, J. B., Saline
Ward, E. L. G., Ann Arbor
Warren, L. F., Ann Arbor
Wessinger, J. A., Ann Arbor
Wood, Neil N., Ann Arbor
Wylie, W. C., Dexter
Yutzy S. M., Ann Arbor

WAYNE COUNTY MEDICAL SOCIETY

(Address Detroit, unless otherwise stated.)

Abbott, A. W., 266 Putman Ave.
Andries, J. H., 474 Brush
Barlow, P. A., 1401 Mack Ave.
Barrett, D. N., 402 Wash. Arcade
Baruch, J. B., 334 Fort St., E
Begle, H. L., 706 Gas Office Bldg.

Bernstein, A. E., 436 St. Antoine
Blodgett, W. E., 602 Fine Arts Bldg.
Buesser, F. G., 310 Wash. Arcade
Campbell, Duncan, 57 Fort St. W
Canfield, G. M., 270 Wood Ave.
Carrow, Flemming, 503 Wash. Arcade
Chaney, Willard, 121 W. High
Clark, J. E., 608 Wash. Arcade
Connor, Guy L., 91 Lafayette
Cooley, T. B., 602 Fine Arts Bldg.
Cooper, J. M., 610 Fine Arts Bldg.
Cowan, A. L., 549 14th Ave.
Cree, W. J., 504 Alexander W.
Cumming, R. B., Wayne
Davis, C. R., Blain and Woodward
DeForest, Alice M., 134 High st., E
Dodds, J. C., Fine Arts Bldg.
Duffield, Francis, 248 Seminole
Fechheimer, M. A., 403 Gas Office Bldg.
Forbes, E. B., 271 Woodward Ave.
Gailey, J. K, 415 Wash. Arcade
Garner, H. B., Gas Office Bldg.
Gorenflo, A. H., 602 Breitmeyer Bdg.
Gratton, J. H., 416 Hamil
Griffith, A. J., Roosevelt & Warren
Harrison, J. W., 429 E. Gr. Boulev'd
Hart, T. M., 438 Trumbell St.
Haskins, Mary G., 270 Woodward
Herbert, Leo H., 2225 Jefferson, W
Hensel, R. D., 111 Park St.
Howell, D. R., Eloise
Hoops, G. B., 347 Messic
Holden, H., Trenton
Jenks, N. R., 271 Woodward Ave.
Johnson, A. H., 209 Canfield E.
Kiefer, G. L., 89 E. Forest Ave.
Knaggs, C. W., 1560 Gratiot Ave.
Lachajeuski, S. J., 934 St. Aubin
Langlois, N. T., Wyandotte
Lau, O. H., 56 Garfield Ave.
Layton, M. A., 1980 W. Fort St.
Lee, John, 317 Cass Ave.
Linn, Robert S., 594 Cass Ave.
Livingstone, P. J., 307 Fine Arts
Loucks, R. E., 271 Woodward Ave.
McCormick, F. T., 501 Wash. Arcade
McDonald, G., 3062 E. Gr. Boulevard
McVeigh, J. A., 406 Fine Arts Bldg.
Maguire, F. J. W., 778 Jefferson Ave.
Matthews, J. D., Fine Arts Bldg.
Merdian, W. J., 121 St. Aubin
Millard, Frank A., 271 Woodward Avenue
Moody, P. E., 1491 Woodward Ave.
Palmerlee, G. H., 410 Wash. Arcade
Parker, Delos L., 559 Jefferson Ave.
Parker, B. D., 306 Fine Arts Bldg.
Rieman, W. H., 476 Elmwood
Roach, John J., 2107 Jefferson Ave.
Sanderson, S. E., 147 Warren Ave. E.
Schwanz, M. J., 404 Whitney Bldg.
Silver, Maxwell, E., 730 Brush St.
Spillaine, T. F., 403 Stevens Bldg.
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Sterling, A. M., 271 Woodward Ave.
Tapert, R. T., 353 Riopelle St.
Tiffin, W. E., 1870 Woodward Ave
Tufford, J. C., 702 Woodward Ave.
Wagner, G. W., Adrian
Waldeck, Geo. Matthew, Chamber of Commerce
Walker, Thaddeus, 33 High St., E.
Weed, O. B., 59 Clifford St.
White, J. V., 57 W. Fort St.

NEW OR REINSTATED MEMBERS

Since April 25, the following new or reinstated members have been added to the list. Gratiot and Charlevoix Counties were reorganized May 25 and 26. The list of members will be published later.

BRANCH

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CASS

Irwin, D. H., R. 6, Marcellus
Tonkin, E. W., Edwardsburg

CHEBOYGAN

Marks, C. B., Cheboygan

DICKINSON

Brasseur, J. B., Norway
Cruse, S. E., Iron Mountain

EMMET

Moorman, E. R., Pelston

GENESEE

Charles, H. L., Swartz Creek
DeSomoskeoy, V. H., Flint
McGregor, J. C., Flint

GRATIOT

Gardner, C. B., Alma

HURON

Young, Sheldon B., Caseville

INGHAM

Rulison, J. G., Lansing

KALAMAZOO

Ames, Edward, Kalamazoo
Bills, W. H., Allegan
Heasley, H. W., Burnips Corners

KENT

Beel, H. J., Grand Rapids
Fabian, J. J., Grand Rapids
Herrick, O. E., Grand Rapids
Young, R. A., Grand Rapids

LENAWEE

Westgate, Clarence, Weston

MACOMB

Bush, H. J., Armada
Seaman, J. H., New Haven

MANISTEE

Kirkland, R. J., Manistee

MARQUETTE-ALGER

Lindgren, I., Ishpeming

MECOSTA

Watley, Sam, Blanchard

NEWAGO

Denike, A. J., Hesperia

SAGINAW

Crane, B. F. A., Saginaw
Edelman, F. W., Saginaw
Leitch, A. E., Saginaw
McMeekin, J. W., Saginaw

ST. CLAIR

Ross, Geo., Capac
Burtless, W. E., St. Clair

TRI-COUNTY

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Backus, L. C., Ann Arbor
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Adams, J. R., 185 Chene St.
Agnelly, E. J., 552 Dix. Ave.
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Burke, F. B., 121 Willis W.
Baker, W. R., 1411 Fort St. W.
Brown, W. C., 1026 Mt. Elliott Ave.
Chittick, W. R., 270 Woodward Ave.
Currie, E. M., 1697 W. Fort St.
Duncomber, D. A. C., 964 Mack Ave.
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Ellis, F. H., 325 Kercheval Ave.
Estabrook, B. V., 79 Greenwood Ave.
Greco, Vincent, 209 Champlain St.
Gunsolus, K., 20 Henry St.
Henderson, W. R., 515 St. Auben Ave.
Kilbourn, K. E., 472 Canton Ave.
Kulick, S. A., 1201 Junction Ave.
Kipp, A. W., 535 Chene St.
LaFerte, A. D., 346 Jefferson Ave.
Levin, N. P., 168 Montcalm St.
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Palmer, R. J., 1 Marston Court.
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Schnell, A. E., 168 Kercheval Ave.
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Scriber, W. E., 202 Forest Ave. E.
Sherman, A. T., 738 Trumbell
Scriber, Geo. H., 1112 Mt. Elliott Ave.
Steinbrecher, A. H., 508 Fine Arts Bldg.
Sigel, Tobias, 40 Howard St.
Sanderson, P. G., 270 Woodward Ave.
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ORIGINAL ARTICLES

IS POLIOMYELITIS OF THE EPIDEMIC TYPE TRANSMITTED THROUGH INHALATION?*

J. G. R. MANWARING, M. D.
Flint, Mich.

The greater part of the experimental investigations made with the virus of epidemic poliomyelitis have been to show that it is due to entrance of the germ through the respiratory tract that the disease spreads. The evidence of this so far has been the finding that the emulsions of the nasal mucous membrane are infectious, and that when this is applied to the *scarified* nasal passages of another monkey, the disease may be given it. In the cages where monkeys for this work are kept no such natural transference has occurred.

As a matter of fact, we are still groping in the dark for some understanding of how epidemic poliomyelitis is carried, and so far no one has found a clue so well explaining the facts as to be generally accepted. Not knowing or being able to work with the causative agent directly because of its apparently prohibitory size, we are greatly handicapped.

It has been compared to epidemic cerebrospinal meningitis, and workers have assumed a similar mode of transmission, which in the latter is now generally thought to be through the nasal mucous membrane.

Enough is known of this paralysis and its nature to assist us very materially in its study by comparison and analogy with other better known infections. We are now familiar with many dissimilar modes of disease transference, and will probably find that epidemic poliomyelitis has its analogue in the diseases better known. For the purpose of this study we will assume that it is spread by some method with which we are familiar, for we have no right to assume that it is carried in a wholly unknown manner until we have excluded those with which we are acquainted.

We will also grant that several facts are known concerning infantile paralysis, some of which are of recent knowledge. These are as follows:

The disease is an acute, specific, transmissible infection.

It follows lines of travel, frequents localities, is largely found in rural districts, villages, and the outskirts of large cities.

*Read before the Genesee County Medical Society, April 25, 1911.

When a region has been once infected, there is a tendency for other cases to occur in succeeding seasons, although in possibly fewer numbers.

It is not *directly* transmitted from patient to patient, for there is only occasionally more than one case in a household.

It is most prevalent in the hot months, from June to September, although few cases are reported at other times.

The organism is widely spread in the body at stages of the disease, and can be used to produce infections in other animals when given by inoculation; it is too small to see with our present means.

The most striking fact we find above is the marked season variation, which in other diseases means a great deal and should in this one.

From the bulletins of the Michigan State Board of Health for 1910 I have constructed graphic charts showing the seasonal variations in the various infectious diseases which are given there. These scales are drawn so as to show the relative variations from month to month, and not the relative relationships between the occurrence of the diseases. These lists used are the mortality figures, and do not give the exact occurrence of the diseases by numbers. However, they do give the relative seasonal variations if we will make allowance for the delays due to the fact that some of the diseases run a more lengthy course than others.

We have several diseases which we believe are almost entirely inhalation infections,—bad air diseases,—and these have an unmistakable seasonal variation in prevalence. We have them when we house ourselves up and do not dilute our living air by free interchange with the outdoors in winter.

In the first two charts are depicted the number of deaths from influenza and pneumonia by months, each typical inhalation infections. The pneumonia chart (1) shows a maximum number of cases dying in February, and a minimum in July, August and September, the rise and fall being exactly proportional between these points. The influenza (2) shows the maximum in March and minimum in July, August, September and October. The delay no doubt is accounted for in the different courses the two diseases run after exposure, the latter having a slower onset, longer course, and causing a broncho-pneumonia or other complication which in turn runs its course before death occurs. The ordinary pneumonia is faster.

The two next charts, scarlet fever (3) and measles (4), are also typical charts of inhalation diseases, but they vary from the two given because they occur mostly in children, and the indoor exposure is modified by the school months, the contact of large numbers, and possibly other factors. They are lowest in warm weather and vacation time, and highest in cold weather. They are both inhalation infections of children, and we would expect that poliomyelitis would give a similar seasonal variation if it were in the habit of entering its victims through the respiratory tract.

Epidemic cerebro-spinal meningitis prevails mostly in the colder months, and would probably give a similar chart. I have no figures for one, however, as we have had no epidemic of it recently in this State.

Whooping cough gives a chart (5) much like measles in its course, but has not such marked monthly variations, no doubt because of the long course it runs and the overlapping that ensues.

Diphtheria (6) does not show in Michigan any very marked seasonal variation in its prevalence, but is a little more frequent in the fall months.

Typhoid fever exists in fair numbers the

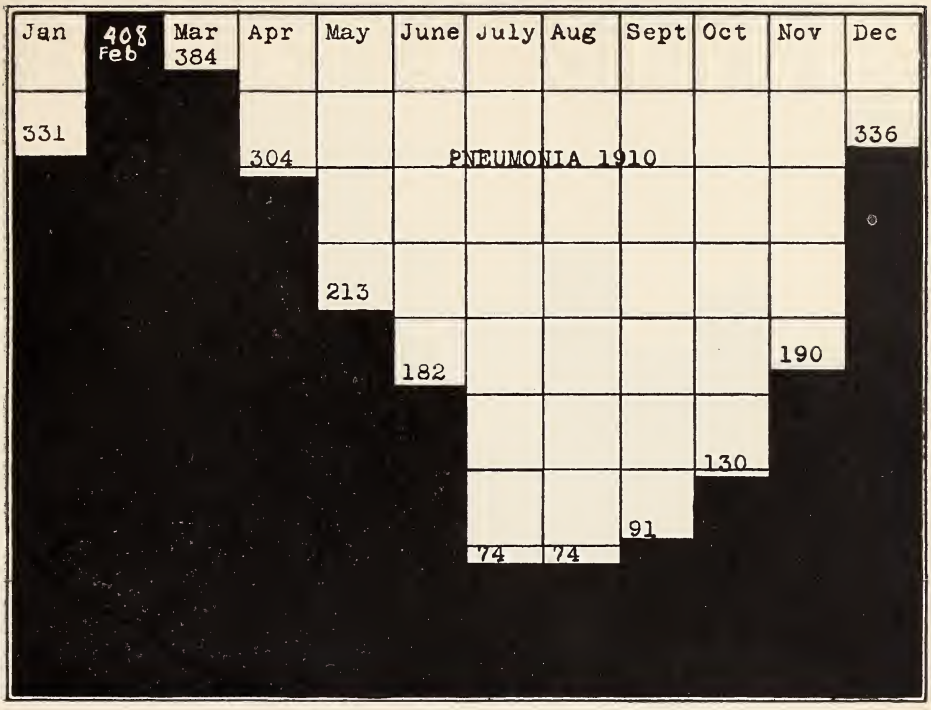

Jan
408
Feb
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384
Apr
May
June
July
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331
304
213
182
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190
130
91
74
74
PNEUMONIA 1910

Fig. 1.

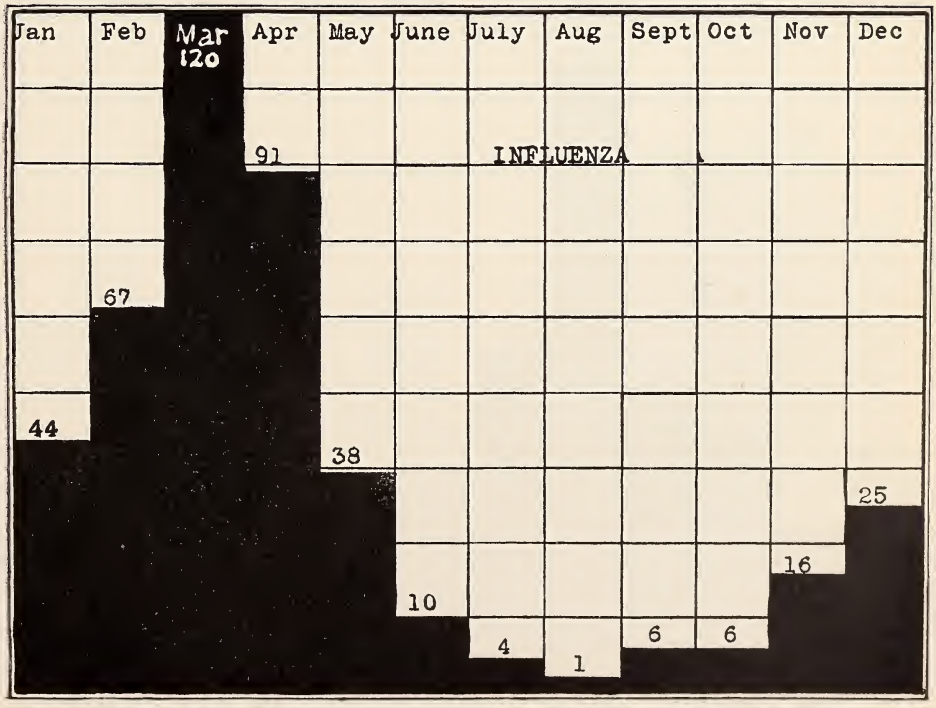

Jan
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120
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44
38
25
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10
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1
6
6
INFLUENZA

Fig. 2.

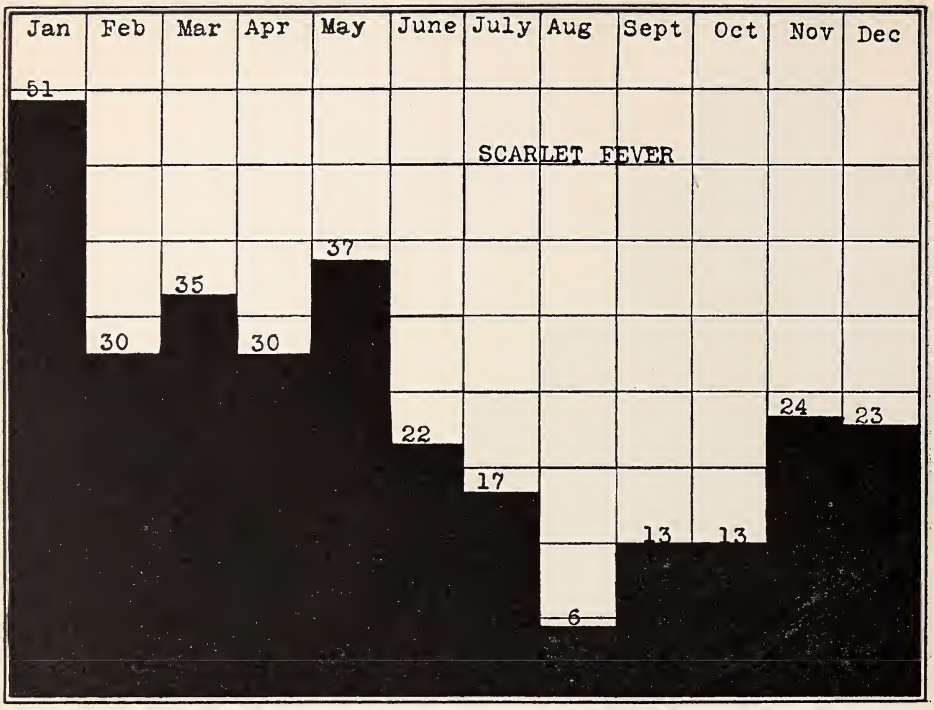

Jan
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June
July
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Nov
Dec
51
SCARLET FEVER
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35
30
30
24
23
22
17
13
13
6

Fig. 3.

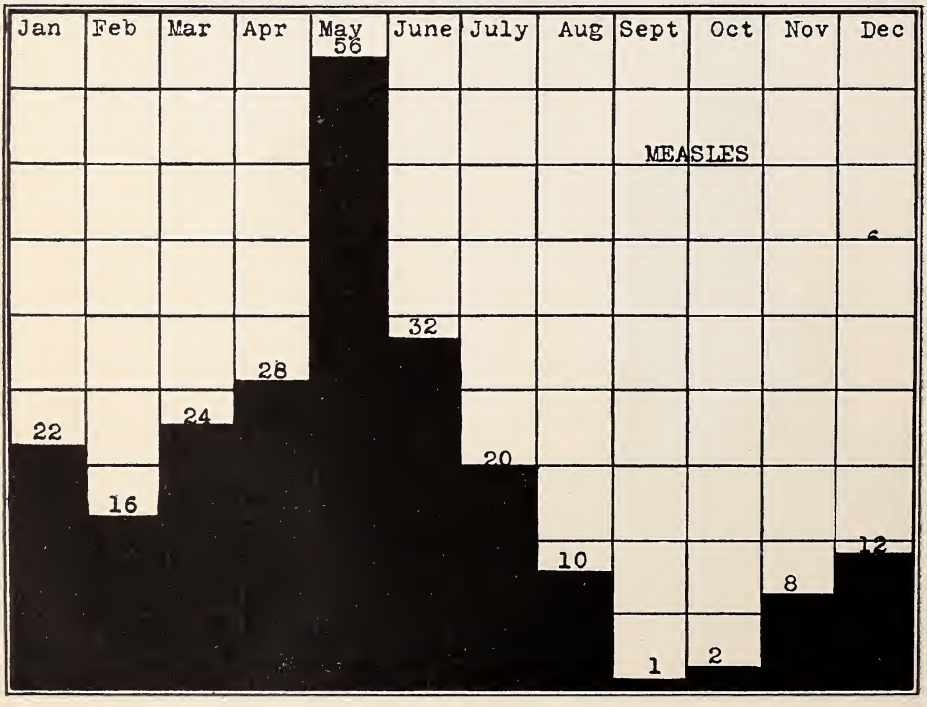

Jan
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July
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56
MEASLES
6
32
28
24
22
20
16
10
12
8
2
1

Fig. 4.

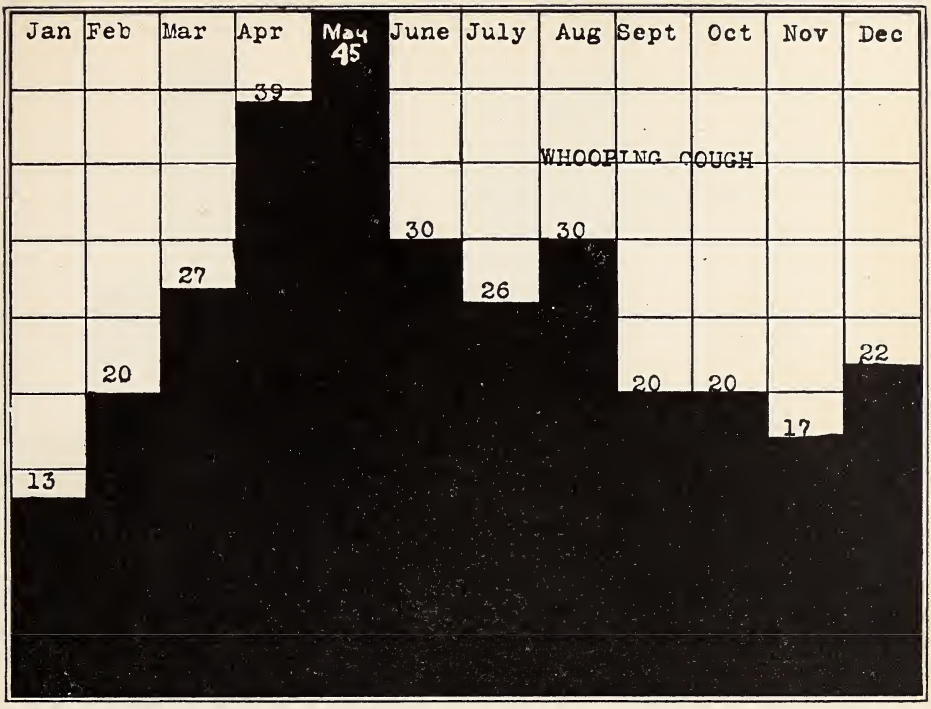

Jan
Feb
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Apr
May
45
June
July
Aug
Sept
Oct
Nov
Dec
39
WHOOPING COUGH
30
30
27
26
20
20
20
22
17
13

Fig. 5.

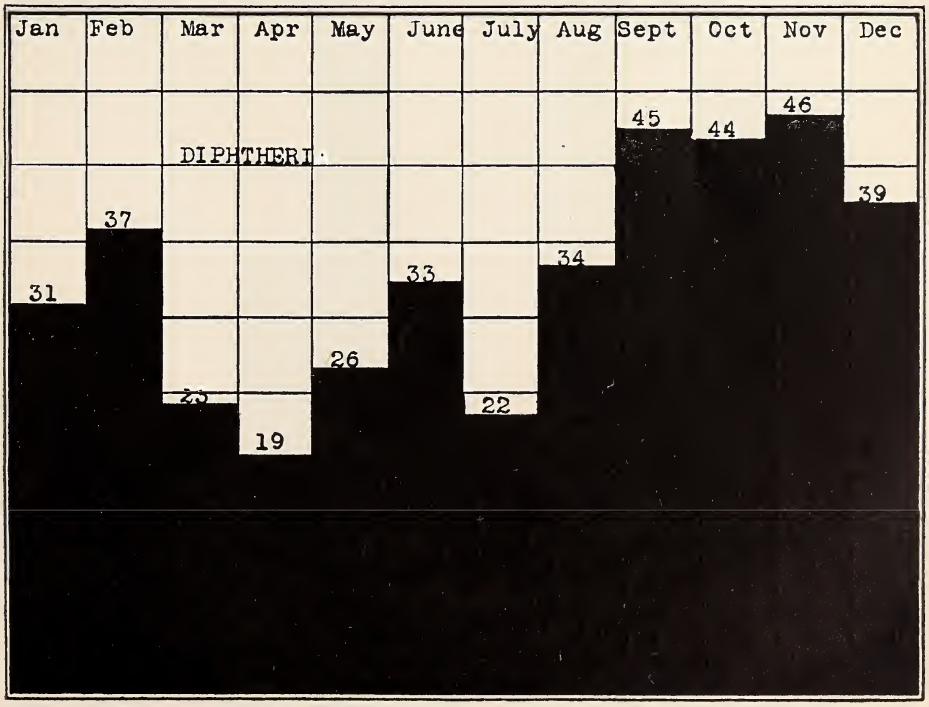

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DIPHTHERI
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22
19

Fig. 6.

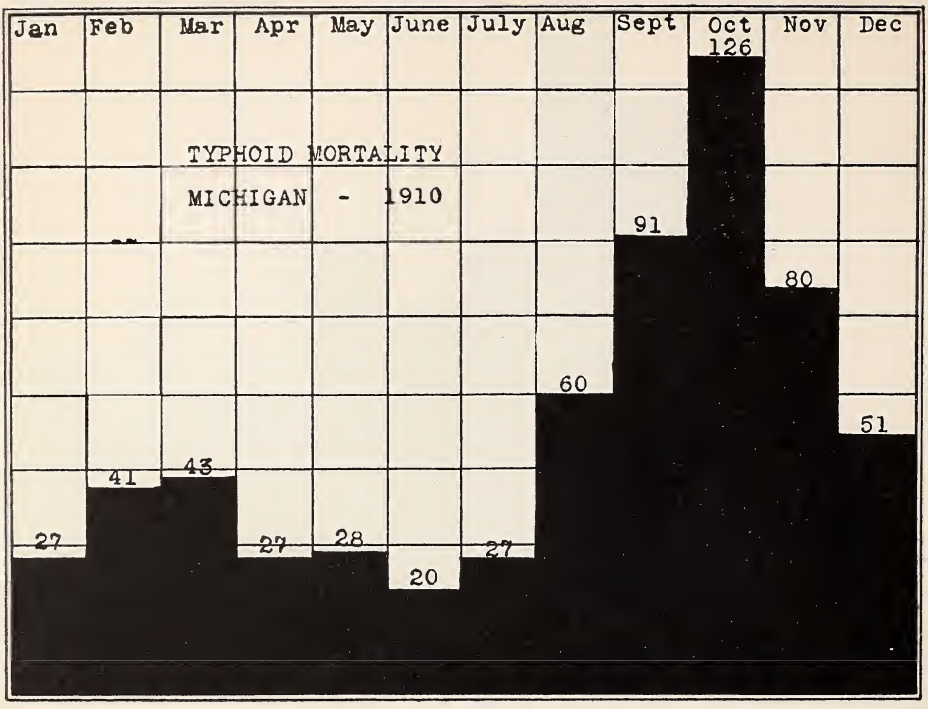

Jan
Feb
Mar
Apr
May
June
July
Aug
Sept
Oct
Nov
Dec
TYPHOID MORTALITY
MICHIGAN - 1910
126
91
80
60
51
41
43
27
27
28
27
20

Fig. 7.

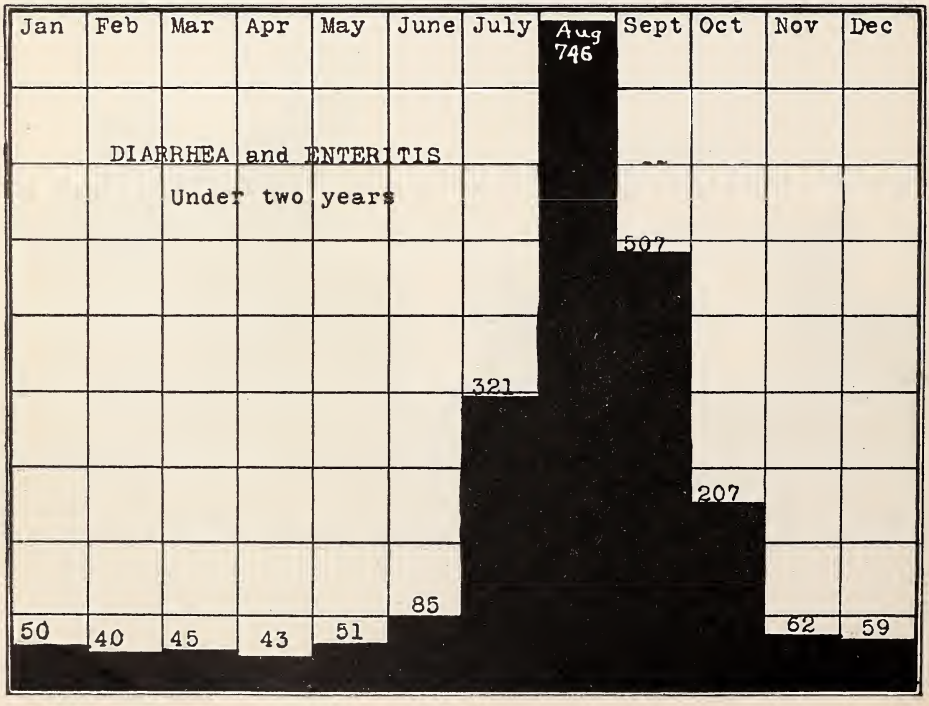

Jan
Feb
Mar
Apr
May
June
July
Aug
Sept
Oct
Nov
Dec
DIARRHEA and ENTERITIS
Under two years
746
507
321
207
85
50
40
45
43
51
62
59

Fig. 8.

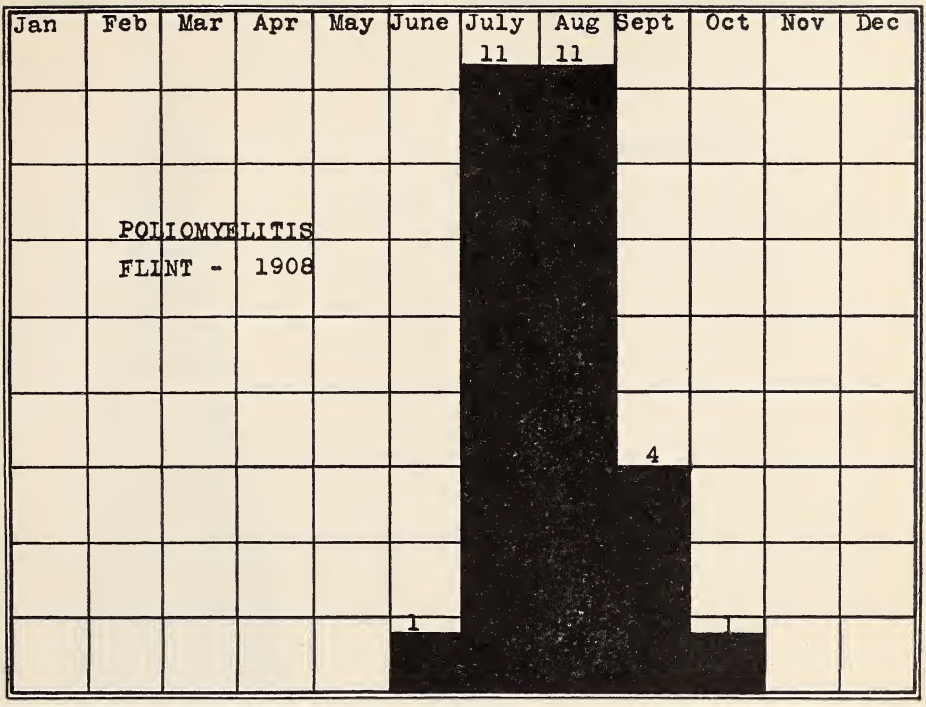

Jan
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11
11
POLIOMYELITIS
FLINT - 1908
4
1

Fig. 9.

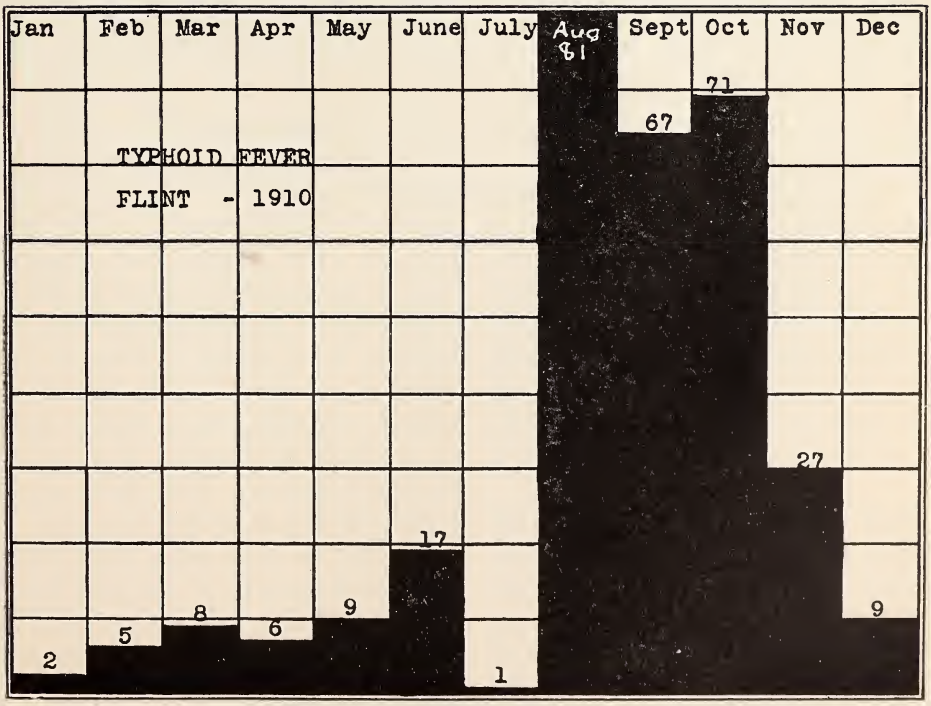

Jan
Feb
Mar
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May
June
July
Aug
Sept
Oct
Nov
Dec
81
71
67
TYPHOID FEVER
FLINT - 1910
27
17
9
9
8
6
5
2
1

Fig. 10.

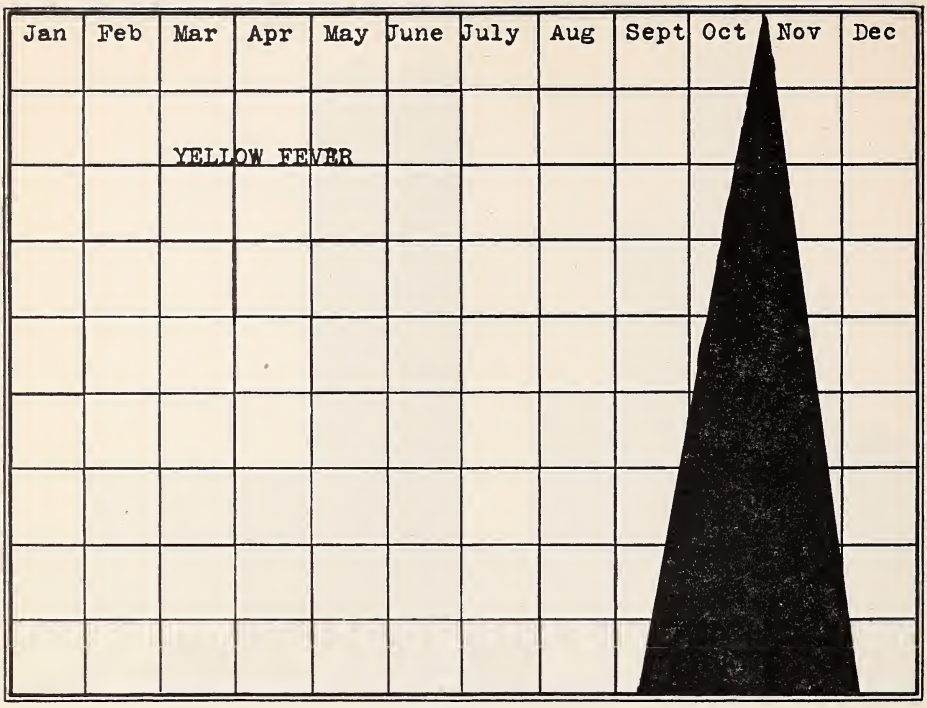


Fig. 11.

year around; however, it has a great rise in summer and early fall, as is shown by the chart (7) giving the mortality in this State in 1910.

The diarrheas of children show a striking scale with its maximum in August (8).

Not finding figures for poliomyelitis by months, I constructed a chart (9) giving the cases we had in an epidemic here in 1908 which I reported in the State JOURNAL. This may be used for comparison, but because of the few numbers it does not give a good staircase rise and fall, as one would get from a larger epidemic. All observers report the same seasonal type of variation, so that no mistake can occur in such a chart.

This chart for infantile paralysis is an exact counterpart of the ones for typhoid and summer diarrheas. It is unmistakably of the same type, and should arouse a strong presumption that some factor of the transmission, modified by the season, was common to all of them.

Typhoid fever and the infectious diarrheas are both food infections, and the spread of the diseases is due to the contamination of food or drink by some agents which transmit the germs to them.

In typhoid, barring the epidemics due to contamination of municipal water supplies, the infection is due to seepage from privies, to shallow wells, and from the fly and his dirty habits; that domestic pet born in the privy and raised in the pantry. I believe it is becoming recognized that the typhoid fever which is found in the outskirts of our cities, and in the villages and country districts, can be largely designated by a simple hyphenated word as a privy-fly-food-infection. The chart of such a local epidemic is shown here (10).

In Flint we have had a most remarkable increase in growth in the past four years, and our municipal improvements have not kept pace with it; so that much of the newer portions of the city has no sewer nor water connections. In 1910 we had ty-

phoid cases to the number of 303 cases; in August, September, October and November there were 246 cases. Of these cases 16 were probably due to a milk infection from one dairy, 37 were in the region of the city where they might be due to the water supply, and the rest were in the unimproved regions where wells and closets are a necessity. In investigating these a very few were traced to wells probably, but the majority were of unknown cause, excepting that everything pointed to the carrying of the germs by flies. There were great numbers of them, the houses were filled with them, and the unscreened, poorly kept privies were also filled with them. It seems reasonable to conclude that nearly four out of five of our cases were due to the flies. The chart of this epidemic is a good one to show a fly infection with its variations by months.

The distribution of typhoid and poliomyelitis show a close resemblance. In fact, the facts given above as known about the latter fit the former very well excepting for the last paragraph concerning the specific organism.

The acute enteritis of children we possibly do not know so much about as we do typhoid. No doubt many of the cases are specifically due the Shiga bacillus. And most all of them are probably due to micro-organisms related to the typhoid germ, the Shiga bacillus, or the colon germ.

This means that the disease only occurs when the food, usually milk, is infected with germs which will cause the disease, and so far as we now know the greatest source for such germs is in the excretions. This brings it back to the typhoid type. The transferring and inoculation of the milk with a pathogenic germ is carried on by some agents which may be again largely the fly. This we are not so sure of, but it certainly looks reasonable.

The influences of the summer and fall can, after all, be but two in number: to keep the food at a favorable temperature for the germs introduced to grow, and to furnish many insects to carry them about. Other factors other seasons have also. The transmission of the disease is dependent on that which has contact with the dejections of one alimentary canal and the food which enters another. Of typhoid we know the summer variation is largely due to flies, and of the diarrheas we can well suspect it.

In looking over other infectious diseases which have a marked seasonal increase of the summer-fall type, malaria, yellow fever, rocky mountain spotted fever are about the only ones found which in this country in the temperate zone can be utilized for comparison.

Not having particular statistics of these, we can prepare a chart which will show the type by the fact that in the Southern United States yellow fever used to occur from September to December, with its maximum in late September and October. With this as a basis for comparison, the chart (11) is constructed, and it is of the same type we are discussing.

All of these diseases with the marked summer and fall increase we know to be due to various organisms, but they have one thing in common, and that is the virus is carried by insects. Some of them have other methods of spread also, but the summer-fall rise is due to that portion of the cases so infected. We may with great assurance assume that poliomyelitis has its seasonal prevalence in the warm weather because it is insect borne, and likewise we must very strongly doubt that those investigators who are inclined to believe that it is an inhalation infection are right.

This is necessarily a very brief consideration of the factors bearing upon the transmission of infectious diseases, but they are so well known it seems hardly necessary to

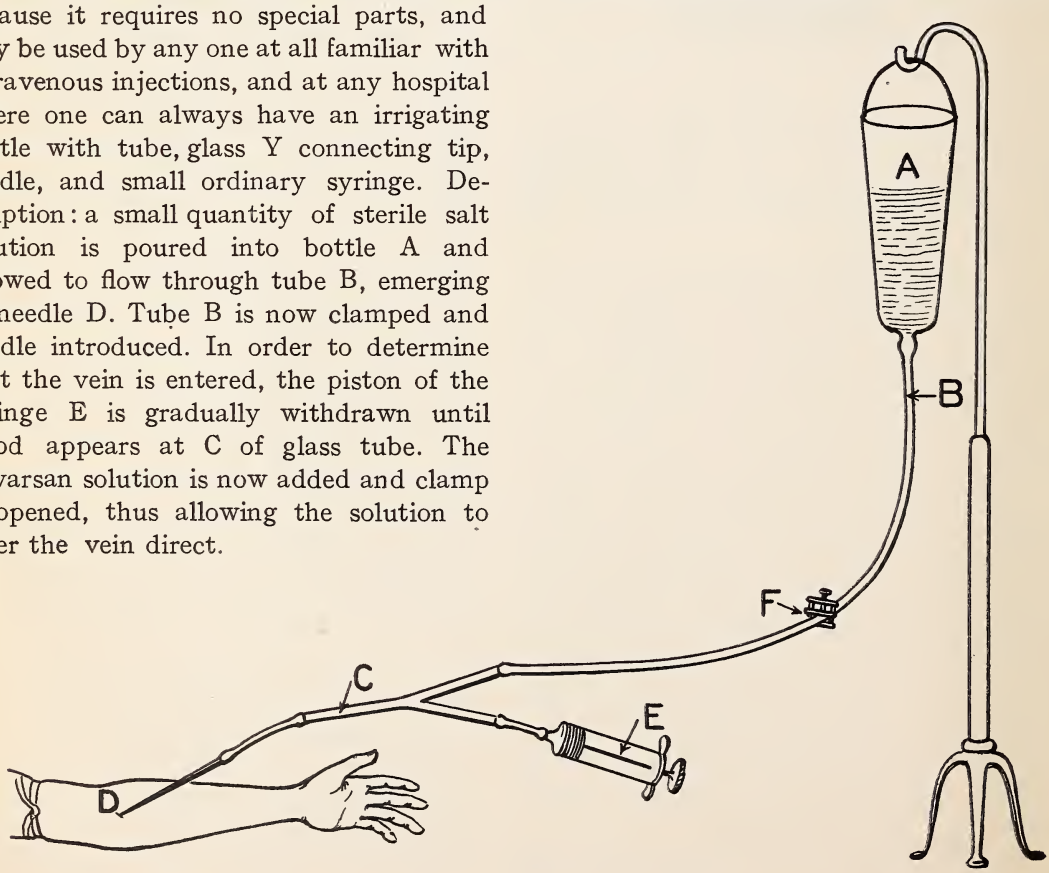
discuss them at length to bring out the point I would emphasize, and that is that from what we know of other diseases and their natural history and modes of spread, and from what we know of epidemic poliomyelitis, we must, if we respect the striking facts noticed in the comparison, assume that the latter is an insect borne disease.

I purposely gave several charts of infections which we know to be spread by the entrance of the infectious material into the respiratory tract, and in no way do they show a resemblance to epidemic infantile paralysis.

A SIMPLE METHOD FOR THE INTRAVENOUS ADMINISTRATION OF "606"

J. JACQUES FABIAN, M. D.
Grand Rapids, Mich.

Since Ehrlich has advised the intravenous route for salvarsan, innumerable methods and apparatus have been suggested, many of which, no doubt, are good, but all lacking more or less simplicity or efficiency. The following has appealed to the writer because it requires no special parts, and may be used by any one at all familiar with intravenous injections, and at any hospital where one can always have an irrigating bottle with tube, glass Y connecting tip, needle, and small ordinary syringe. Description: a small quantity of sterile salt solution is poured into bottle A and allowed to flow through tube B, emerging at needle D. Tube B is now clamped and needle introduced. In order to determine that the vein is entered, the piston of the syringe E is gradually withdrawn until blood appears at C of glass tube. The salvarsan solution is now added and clamp F opened, thus allowing the solution to enter the vein direct.



GASTRIC AND DUODENAL ULCER: ITS SURGICAL TREATMENT*

CAN PARTIALLY STAGNANT DUODENAL CONTENTS BE CONSIDERED AN ETIOLOGIC FACTOR?

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Detroit, Mich.

Our knowledge of diseases of the stomach can be traced back many decades. As early as 1812 we find in "The Eclectic Repertory," Vol. III, an account of a new method of extracting poisons from the stomach. This account was written twelve years after the method was employed by Phillip S. Physick, M. D., in an accidental case of laudanum poisoning. His patient was an infant, and the instrument he used was a catheter. From this time, i. e., 1800, he continually recommended this procedure in his lectures. Dorsey, his nephew, upon his advice had stomach tubes made in Paris as early as 1803.

The next noteworthy advance in our knowledge of the physiology and pathology of the stomach we must attribute to the physiologist Beaumont. He in 1823 gave the first description of the character of gastric juice, pointed out that the acidity was due to hydrochloric acid, and demonstrated the motility of that organ. On his observations on gastric motility is based most of our present-day knowledge. In 1821 Dr. John C. Cheesman reported a singular case of "ulcerated stomach with perforation and death." The post-mortem showed a perforated ulcer in the anterior wall of the stomach one and one-third inches in diameter with ragged, elevated edges.

Numerous similar reports of gastric ulcers soon followed and gradually medical men awakened to the possibilities of surgical treatment in these cases. Accordingly operations on the stomach were attempted, and in 1881 Woellfer performed the first successful gastroenterostomy. In America, A. B. Atherton was the first to perform a successful operation for a perforated gastric ulcer; at least to him priority is usually given.

At this time, i. e., 1881 to 1885, little confidence was placed upon any operation on the stomach. Nor is this to be wondered at in the face of the enormous death rate, which, even as late as 1885, was about 67%. Today, however, owing to the fact that patients are operated upon earlier and under more favorable circumstances, owing to more careful preparation, strict asepsis, better technique, prevention, or better treatment of shock, this appalling mortality has been materially lessened, so much so that with the average surgeon today it is from 1½ to 3%. To this end the many different kinds of sutures, such as the Cushing, the Halsted, etc., and the various mechanical devices, such as Senns decalcified bone plates, the Murphy button, the McGraw ligature, etc., have been of considerable aid, and although they all are now relegated to the shelves of past history, nevertheless without them gastric surgery of today would be far behind the perfected condition in which we see it.

* Read at the Forty-fifth Annual Meeting of the Michigan State Medical Society, Bay City, September 28, 29, 1910.

We now ask ourselves in what conditions is an operation on the stomach and especially a gastroenterostomy indicated. Briefly stated these conditions are: organic stenosis of the pylorus or duodenum either from active or healed ulcer, congenital stenosis, perigastritis with adhesions around the pylorus, producing obstructive symptoms, or pain, and too extensive for simple gastrolysis, persistent and painful pylorospasm due to persistent hypochlorhydria, chronic ulcer of any part of the stomach or duodenum which cannot be relieved by rest, diet, and medical means, and carcinoma of the pylorus, too extensive for resection, in which case the gastroenterostomy is only palliative.

As this paper is to deal merely with ulcer and its relation to gastroenterostomy, we will not discuss all the indications for this operation, but confine ourselves to the one condition, "ulcer."

Ulcer of the stomach or duodenum is more common than text-books would have us believe. Of course, if we intend to cling to the old idea and diagnose only those cases as ulcer in which there are present pain, vomiting, and bleeding, then we are obliged to hold that ulcer is rather a rare condition. This triad of symptoms is, however, rarely found in a given case, and then only in those cases where ulcer has existed for a long time. Here, changes in important organs, such as the stomach, liver, and pancreas, have been brought about by persistent infection at work in the ulcerating areas, whether in the stomach or duodenum. In such a case even a correct diagnosis may be futile on account of the irreparable damage that has been done. We must diagnose ulcer before this stage is reached, if we wish to accomplish much by treatment. Biliousness and dyspepsia are names usually given to a train of symptoms which the study of living pathology has taught us to be due to ulcer. In fact, some authors assert that every patient suffering from persistent symptoms of dyspepsia has or has had a gastric or duodenal ulcer, and his suffering is either due to the actual ulcerating process or to the sequellæ, cicatricial contraction, causing pyloric stenosis or hourglass contractions, gastric dilatations, perigastric adhesions, etc.

Numerous causes and many diverse and varied opinions have been given to explain the cause of gastric and duodenal ulcer. Thrombosis, injury due to rough food, septic infection, etc., have all been given as etiologic factors. Some consider hypochlorhydria a cause, others the result of ulcer, but even this condition is not constant, as many ulcers exist without an increased amount of hydrochloric acid. A peculiar causative relation exists between burns and scalds and ulcer of the duodenum. Curling, Dupuytren, and Long, as early as 1840 reported cases of ulcer of the duodenum following burns, yet in the great majority of patients with ulcer such a history is not obtainable. When all is said and done, we must still admit that we don't know. However, the most probable cause to us is that gastric and duodenal ulcers are usually septic in origin, and we think oral sepsis the one condition from which it arises.

A striking thing about ulcers is, that when they occur in the duodenum they are always situated in that part of the mucous membrane which normally is in contact with an acid media, i. e., between the opening of the bile and pancreatic ducts and the pylorus. They never occur below or distal to these ducts. This fact caused us to think that bile and pancreatic juice regurgitating into the upper part of the duodenum and stomach might be responsible for the trouble. We can casily see how stagnation and regurgitation of bile can be brought about by any narrowing of the lumen of the gut below the exit of the ducts, or by a condition in which the superior mesentery ex-

erts undue pressure on the transverse part of the duodenum.

Accordingly, we undertook a series of experiments upon dogs in which we caused an intestinal obstruction distal to the bile ducts. (See diagram No. 1.)

Of course all these dogs died, some of peritonitis, others from a cause we could not definitely ascertain. The dogs that died from peritonitis were not included in our experiments. Those that did not show any signs of peritonitis, that is, those whose peritoneal cavity after death was normal and sterile (as proven by cultures taken immediately after death from the peritoneal cavity), were examined as to ulcerations of the mucous membrane of the stomach and duodenum. In some of these typical ulcers developed, in others there were no such signs.

These experiments were repeated over and over again, but our findings are so inconstant that we do not feel justified in making any conclusions as yet. In fact, we were inclined to believe that those ulcers which did develop were either present before or were brought about by septic material coming in contact with mucous membrane whose circulation was disturbed as an inevitable result of the manipulation necessary to cause a complete obstruction of the bowel. To avoid this and to allow the animal to live an indefinite period, we next took a series of dogs and made only a partial obstruction just distal to the bile ducts, with the hope that bile and pancreatic juice would become partially stagnant proximal to the partial obstruction. (See Fig. No. 2.)

The dogs of this group all, with the exception of one which died of peritonitis, lived. These experiments were performed about the middle of June. Since that time the dogs were weighed by-weekly. The weight charts show neither a loss nor gain in weight. Two of these dogs were killed and examined on September 21st, i. e., three months since the operation causing partial obstruction was performed. One of these had areas in the duodenum proximal to the bile ducts, oval in shape, from which the mucous membrane had been cast off. These areas resembled ulcers, except that they did not have the indurated base we usually see in ulcers in this part of the alimentary tract. The other dog's duodenum seemed normal, but the mucous membrane of the stomach in one place on

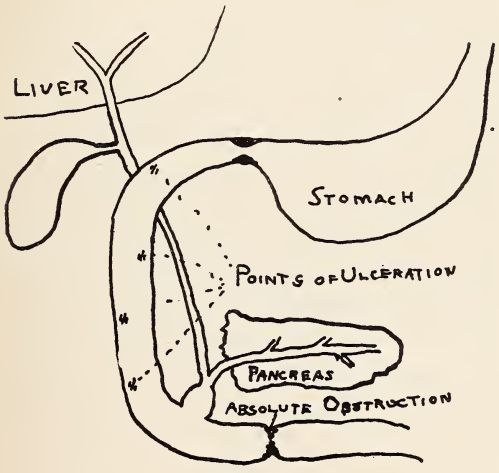


Fig. 1.

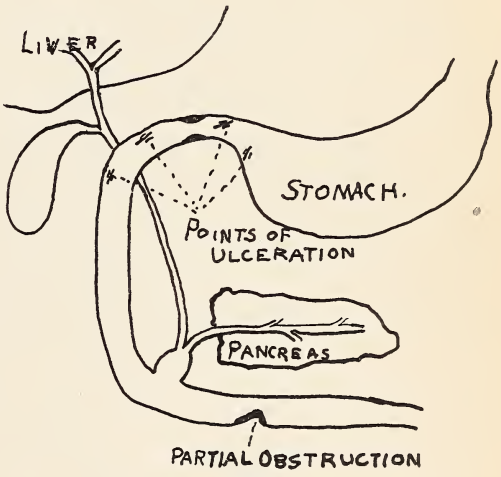


Fig. 2.

the fundus, about the size of a half dime, was slightly indurated, reddened and eroded. This spot showed all the signs of a beginning ulcer, and had this animal been allowed to live longer this area would in all probability have developed into a well-defined gastric ulcer. When we find gastric ulcers in the human, the factor which causes their presence must have existed for a period of months and even years. In the case of these dogs, partial obstruction was present only three months, a period of time too short for conclusive evidence. We therefore intend to allow the remaining eight animals of this group to live for about a year, and then see whether the conjectures arrived at from the two animals already killed will be realized. At present we can say, that there is the possibility that partial duodenal obstruction, say from compression on its transverse part by the root of the superior mesentery or from chronic narrowing of the lumen of the gut from some other cause, does cause stagnation of the bile and pancreatic juice, and as a result gastric or duodenal ulcer with a train of symptoms varying from persistent dyspepsia to the well-defined and classical picture of ulcer.

These experiments were made in spite of the fact claimed by many authors that one of the real beneficial results of a gastroenterostomy is due to the alkaline duodenal contents regurgitating into the stomach and there neutralizing or reducing the excessive acidity. If the upper intestinal juices are really beneficent after a gastroenterostomy, as these authors would have us believe, it is difficult to see how they should have been harmful before. However, the experiments along the line above indicated are far from being completed, and even at this early stage they point with strong suspicion to the fact that partially stagnant bile and pancreatic juice in the upper part of the duodenum and stomach is harmful.

The diagnosis of this condition is arrived at principally by a careful anamnesis. The physical examination will reveal little of value; the stomach analysis may show increased acidity, and thus may confirm, but as said before, even absence of hypochlorhydria is not a proof that ulcer does not exist. How, then, can we best arrive at the conclusion that ulcer does exist?

Given a case of recurrent attacks of dyspepsia which will not yield to rest and medical treatment in three or four weeks, in which the epigastric pain is related to food, and in which there is localized or general tenderness, we may at once become suspicious of the presence of ulcer. If added to this we have vomiting which relieves the pain, we may conclude with a fair amount of certainty that an ulcer is present. Blood in the vomit or blood in the stools will of course diagnose the condition with greater certainty, but this is far from necessary in determining the presence of ulcer. We used to call cases of distress and pain in the stomach when empty gastralgia. Gastralgia does probably exist, but in the vast majority of cases it is a symptom where inflammatory change is the definite and underlying cause.

An idea of the lack of alarming symptoms that sometimes accompany ulcers can be arrived at by studying those cases of sudden perforation, which up to the time of the perforation have given practically no signs to warn the patient or physician of their presence. If we review these cases after the operation, we will find that about all the patient had noticed was the frequent appearance of what is known as "hunger pain," which he had found by experience could best be eased by the nibbling of a biscuit or by drinking a glass of milk.

What we wish to impress most emphatically is not to wait for the old classical picture of ulcer. The only way the patho-

logical condition responsible for such a picture could have been arrived at in past years, was on the post-mortem table. At that time abdominal operations were few, and it is easy to understand how such was the case; how only those extreme and severe cases which had actually died as a result of these ulcers or their sequellæ were recognized as ulcer cases. Consequently all literature on this subject was based on these post-mortem findings. Today, with the vast amount of abdominal operations, some only exploratory, we have learned from the surgeon that even in minor degrees of pain and discomfort referred to the stomach, ulcer, as so frequently demonstrated at operations, is at the bottom of the trouble. It is the living pathology of the day and not the dead pathology of the past that should govern our thoughts and actions.

With the diagnosis made, the question is what form of treatment to pursue. Can medical treatment effect a cure or should resort to the knife be had in every case? It is true that dieting, lavage and medication can cure the ulcer for a time. The cicatrix thus formed is, however, not strong and easily breaks down, especially if the factors which in the first place caused the ulcer, again come into play. Moreover, the starvation treatment is very tedious and irksome. To this we must add that over 50% have recurrences. Considering, then, the frequency of recurrences after medical treatment, its unpleasantness, and the gratifying results after surgical treatment, we would advise the latter, recommending excision where possible plus gastroenterostomy.

The permanent cures after operation properly performed are about 90%. The immediate mortality is about 1 to 2%, and in the hands of most surgeons even this is steadily on the decline.

The complications which have always been dreaded from the operation are infection, vicious circle, hemorrhage, peptic jejunal ulcer, obstruction, due either to adhesions or infolding of the mucous membrane, with contraction of the anastomotic ring and hernia through the slit in the mesentery. All of these, except peptic jejunal ulcer, are ghosts of the past, and even this is so rare that it is really a surgical curiosity. Yet it does remain. Vomiting, evidence of obstruction, is usually due to faulty technique. The danger of hemorrhage from the suture line is no greater than that from any other operation. The field for operation is ideal. The stomach and duodenum have thick walls, are richly supplied with blood, and are the most aseptic part of the alimentary canal.

Vicious circle, vomiting as evidence of obstruction either from kinking of the duodenum or contraction of the anastomotic opening, are readily avoided if proper technique is employed, i. e., the posterior no loop operation, with the opening in the stomach large enough (about two and one-half inches long), and in a slightly oblique direction from left to right and downwards. This oblique direction from left to right is the natural course of the duodenum at the point where the anastomosis is to be made, i. e., about two inches from the ligament of Tritz. Of course the amount of obliquity each individual case will have to decide.

The immediate relief from symptoms after a gastroenterostomy is wonderful. The patients are generally more comfortable the day following a gastroenterostomy than even after an interval appendectomy. Gas pains are the exception. The desire for food returns, and the improvement in the general condition in a few weeks is comparable to the change brought about in a starving man who is given food and drink.*

57 Fort Street W.

*All experimental work described in this paper was done in the research laboratories of Parke, Davis & Co.

DISCUSSION

DEAN LOREE, Ann Arbor.—The mortality in gastroenterostomy should be no more than in appendicitis, but the technique is much more difficult. There is one point in relation to gastroenterostomy that I would like to mention. If one has a chance to view the interior of the peritoneal cavity, some months following the operation, he finds that communication between the stomach and bowel does not exist; in other words, the stomach and intestinal wall have healed separately. This condition I have never seen when there was pyloric obstruction, but is very apt to occur in cases of ulcer of the duodenum without obstruction. This, no doubt, accounts for the recurrence of symptoms in a certain percentage of these cases.

DR. R. E. BALCH, Kalamazoo.—I would like to call the Society's attention to one method of operating upon the results of gastric ulcer that has fallen into disrepute and seems to be practically forgotten. I think Dr. McLean will admit that a large percentage of operations are for dilatation of the stomach from spasm or stricture of the pylorus. It has been shown that in chronic dilatation the greater and lesser curvature prolapses, so that the greater curvature often rests in the true pelvis. If we do a posterior no loop gastroenterostomy, we practically hang the stomach by three points, the esophagus, the pylorus and ligament of Treitz, with the results that the dilated stomach drops forward so that our opening is not low down but high up, and the stomach does not drain. I had several poor results in cases of dilatation where the posterior no loop operation was performed, so I discarded that and adopted the Roux operation, or the Y-anastomosis. In that method we cut the intestine, as you know, entirely in two, anastomose the distal portion to the stomach, and the proximal portion into the distal. You thus get a perfect drainage of the lowest portion of the stomach, and then as the stomach contracts, as it always does after the proper drainage, this distal loop, which is perfectly free, can rise with the stomach, and we have no kinking at any time of the convalescence. The results have been so good that I think that this should be the standard operation in cases where the skiagraph shows the greater curvature resting below the brim of the pelvis.

I should also like to add that I think every case of stomach surgery should be skiagraphed before the operation, because it shows what we cannot see at the time of the operation, even with a seven or eight inch incision, and it is not necessary to make such a large incision if you know what you are going to do. It gives us not only the shape and contour of the inside of the stomach, but the exact position of the stomach. I think Dr. McLean will admit that it is exceedingly hard to show the exact shape of the stomach through a laparotomy incision. Also there is no more reason to go through the right rectus for a gastroenterostomy than there is for going through the left for gallstone operation, as in a large majority of the cases the stomach lies to the left of the median line.

DR. C. D. BROOKS, Detroit.—One point of importance in the diagnosis of these cases, before the gastroenterostomy is indicated, is that diagnosis is not possible of benign or malignant obstruction, the cases which have a history of ulcer which is very definite, and mechanical obstructions should not be allowed to go too long before having an exploratory operation. By that I do not mean to find out if something is the matter, but to find out if the condition can be relieved. Surgical men believe in this. We have had about eighteen or twenty cases of carcinoma in the last two years which were so far advanced that it was impossible to remove them, but necessary to do gastroenterostomy to relieve the symptoms of mechanical obstruction. It seems too bad that these cases cannot be diagnosed sooner. They usually have mechanical obstruction for two or three months to a year before the operation is recommended. Patients are often to blame, as they often wish to wait a few months after operation is recommended.

DR. MCLEAN (closing discussion).—As the doctor has mentioned, there are so many of these cases. I think possibly that gastroenterostomies have sometimes been done when there is no ulcer present. I don't think it should be done unless there is positive evidence of the ulcer demonstrable to the naked eye. I think possibly when you see there are no cures, or the patients are no better, in fact, it is where the ulcer has not been positively demonstrated.

As to the drainage of the lower portion there, of course this shows the open stomach, this the posterior wall, and this the opening there about the lowest point. We are not so particular; we

try to get the lowest point, but are not particular where it is. In regard to what the doctor said, that you don't have to have your incision through the right rectus, or any particular place, in the median line I think is about as good a place as any, and for all cases it is probably the most convenient and easy there to pick up the duodenum, but when these cases are done with care to warrant or justify gastroenterostomy, I think the result is ideal, and we might say they are almost safe.

PRACTICAL POINTS ON FRACTURES

(Fuld in *International Journal of Surgery*)

With a history of a trivial injury, followed by a fracture, such as stubbing the toes in falling, or sudden turning over in bed, always think of pathological fracture. An X-ray picture may reveal a tumor, which may be a sarcoma, secondary carcinoma, gumma, cyst of bone, etc. These cases are frequently of medico-legal interest.

Always have a physician or nurse assist you in reducing and setting a fracture, who will share the responsibility and act as witness should suit be brought against you. If necessary call in a consultant. Always give a guarded prognosis.

In fractures of the nasal septum, the interior of the nose should be inspected frequently after replacement of the fragments, as the hematoma, which generally follows the injury, often becomes infected and must be opened early.

In fracture of the spine and of the pelvic bones, it is important to catheterize the patient at regular intervals. In the latter condition this will aid in the diagnosis of rupture of the bladder, which is shown by the presence of blood or bloody urine. If necessary the bladder should be irrigated.

Leave instructions that should a fractured limb become swollen, bluish, or very painful, you be notified at once; and always respond to the call or send some one in your place. If there is much swelling, cut the plaster cast or loosen the dressing and reapply it firmly.

In doubtful cases of fracture of the base of the skull, a lumbar puncture showing bloody fluid will give conclusive proof of its existence.

Bleeding from the nose and ear following head injuries does not, necessarily, mean fracture at the base of the skull. The hemorrhage may come from an abrasion of the auditory canal or the mucous membrane of the nose.

There are many cases of sprained, weak, rheumatic wrists that are instances of unrecognized fractures of the scaphoid bones. The Y-ray will reveal the true nature of the lesion.

Temporary splints may be improvised from all varieties of articles and materials,—umbrellas, walking-sticks, golf clubs, broomsticks, newspapers rolled up into narrow bands, old band-boxes, bed-slats, cigar boxes.

The Forty-sixth Annual Meeting of the Michigan State Medical Society will be held in Detroit September 27-28, 1911

CANCER*

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Palo, Mich.

In collecting the subject matter which I now submit for your consideration, it has been my aim to include nothing but such as would appeal directly, and almost personally, to the general practitioner, for he it is who is generally consulted first, and has an opportunity to examine and advise in the incipient stage.

The importance of a thorough study of all that relates to the subject of cancer appeals to us *first* from the fact of its frequency and the high death rate which it entails.

From a late *Quarterly Report, Michigan*, we quote: "In the State of Michigan, cancer is the cause of 5% of all deaths. With the exception of heart-disease, tuberculosis, and pneumonia, cancer kills more people than any other factor."

Cancer is of most importance to men and women between the ages of thirty-five and seventy-nine, which is called the cancerous age. During the cancerous age, out of every fifteen men who die, one dies of cancer, and out of every eight women who die one dies of cancer.

Three times as many men as women die from cancer of the mouth, two and a half times as many men as women die from cancer of the skin, and forty-eight times as many women as men die from cancer of the breast.

Cancer of the stomach and liver are the most prevalent forms in this State, with cancer of the uterus and of the breast following next in order of frequency.

All reliable statistics go to prove that there is a universal increase in cancer mortality. In England, the Report of the Registrar General in 1908 shows that one man in eleven, over thirty-five years of age, will die of cancer, and that one woman in eight over the same age will die of cancer.

Admitting the above figures as correct, and apply the same estimate on the population of the United States, we must now have in this country not less than ninety thousand cases of cancer that will prove fatal.

In the second place, its importance must appeal to us as medical men, in relation to our duties and responsibilities in the premises. In view of its frequency, and the vital importance attached to early diagnosis and early and thorough treatment, there can be few if any instances where our duties and responsibilities are greater.

A deep-seated abscess, not discovered and consequently neglected, often clears away through a drainage not made by surgeons, and the patient survives to remind his doctor in later years of an error in diagnosis.

An attack of appendicitis may have been mistaken for a diseased ovary or some other affliction, and in time an abscess develops; by a slow process of sloughing a drainage is established, the abscess contents get to the surface, and the patient gets well and enjoys a long and happy life.

An attack of acute periosteitis may be mistaken for rheumatism, and the mistake not recognized till too late for anything of

*Read before the Ionia County Medical Society January 12, 1911.

avail short of an operation for caries, and often this is an amputation, and again we see our patient live and act well his part in life with an artificial limb.

Not so with cancer. Admitting the possibility of self limitation of an occasional case, this associated fact must be conceded: that in cases left to run their natural course the tendency in nearly every one is from bad to worse, terminating in death.

Next, its importance must appeal to us from the horrible and long-continued suffering the patient must endure who dies of cancer, and, lastly, from the obnoxious surroundings and unpleasant tasks which devolve upon the family, the nurse and the physician, whose duty it is to minister to the needs of these hopeless cases as they travel slowly but surely down the straight road to death.

It is not my purpose to enter into the details of the subject such as relates to the classification of cancers, based on the findings of clinical, histological or pathological research work. For a full comprehension of this, you are referred to the standard text-books of the day, wherein you can find the subject-matter presented in a more interesting manner and with much more detail than I am able to give.

Too much emphasis can not be placed on the responsibilities of the general practitioner as it relates to his vigilance in an effort to make an early diagnosis, and his promptness in resorting to early and thorough treatment, for he it is who gets closest in touch with the masses of the people in the early stage of this, and all their other ills.

The fact that the family physician is not much concerned over the appearance of a seemingly harmless growth, is generally sufficient to put at ease a feeling of suspicion on the part of his patient, and oftentimes till a life has been jeopardized.

Causation: It is when we consider the rank cancer holds numerically in the list of diseases, and the importance causation sustains to treatment, that we can comprehend the value of positive findings as to the actual cause.

Various theories have been advanced, much has been written and considerable research work done, especially during the last ten years, in endeavors to determine the causation of cancers, their nature and process of development, and with all we still seem to be in a flurry of speculation.

The belief in a parasite of some kind as the cause of cancer has been widely held for a considerable length of time, and the search for such an organism has been carried on with much intensity in laboratories all over the world.

Perhaps no one person has done more valuable work in this particular field than Dr. Wm. Bosenquet, of London, who has followed a plan systematically arranged on lines of analogy. Using data positively determined in other diseases, such as tuberculosis, typhoid fever, etc., he makes a comparative study with what is known of parasites, associated enzymes, etc., in these diseases, and then by a systematic comparison proceeds to support or disprove the probability of a specific yet undiscovered parasite as the causation of cancer. His contribution to the literature of the subject, though interesting, is too elaborate to quote in anything like detail, but when his final conclusions are given he offers little or no evidence in support of a parasitic origin of cancer.

In 1904 Dr. H. R. Gaylord reported a series of observations which he believed determines the cause of cancer. The studies cover three years' work in the New York State pathological laboratory of the University of Buffalo. In all the cases of cancer which he examined he was able to separate organisms which resembled fat in the free state. The ether and osmic acid

test showed, however, that they were not fat particles. Animals into whose abdominal cavities they were injected developed peritonitis in the majority of cases, and from the peritoneal fluid large numbers of these bodies were obtained. According to Gaylord, they can be found, if properly sought for, in every cancer, and may be injected into animals and subsequently recovered.

Continuing his report, he gives data derived from his clinical findings. This, though interesting, is too lengthy to be considered in this connection. At present it is safe to say that his findings are not generally accepted by the profession as a solution to the problem.

From Charles E. De M. Sajous, we have the following: "Cancer is primarily due to hypoactivity of the body's auto-protective mechanism, the adrenal system, the result, in turn, in most cases, of premature senility. It is a vicarious overgrowth of tissue cells which the agents of this system, leucocytic and humoral, should have destroyed in its incipiency; i. e., when but a nidus of proliferating cells, formed as a result of local irritation by traumatism, inflammatory foci, parasites, moles, warts, etc.

"The defensive agents, phagocytes and autoantitoxin, being those which, under normal conditions, carry on general nutrition, they are able only, owing to their insufficiency, to nourish the tumor and promote its development."

This definition, which differs radically from those previously adduced by others, opens up a new line of thought in this connection, and affords a theory on which to base exalted hopes for the efficacy of internal medication in the cure of cancers.

Giving full credit to all the theories advanced for the evidence each one has brought forth in an effort to establish positive findings that are necessary to explain scientifically the cause of cancer, we yet fall short in proven facts.

Notwithstanding the seeming state of chaos in which the many able investigators have left us as to the solution of the causation of cancer, we think that we have reason to believe that enough has been brought out to make clear many disputed points, and make it possible to arrive, in the near future, at conclusions that will place us in a position beyond the pales of reasonable doubt.

To some it may seem like begging the question, but I believe it must be accepted as a fact, that when the broad distinction between the epithelium and connective tissue type of tumors was established by Professor Virchow, he blazed the way to the goal where the mystery will be unlocked.

From the nature of cancers, it is rendered almost certain that they probably never originate except in connection with epithelium cells, i. e., in the skin, mucous and serous membranes lining cavities and ducts of secreting and excreting glands.

Extending our inquiry on lines of analogy and borrowing from well-established facts relating to cell development in the science of botany, and with these facts associate the recognized favorable results obtained from internal medication directed to the antidoting in and removing from the system the toxines generated in the process of metamorphosis into cancer cells, and we have a basis, at least, for the theory that cancers are neoplasms originating in a semi-destructive metamorphosis of epithelial cells in their very early stage of development, due to environment and generally to traumatism.

We all recognize the achievements of the great Western wizard, Mr. Burpee, in transforming plant development so as to produce a new species of shrubbery, a new variety of fruit, or a seedless fruit of the same variety. While he chooses to keep

the details of his process a secret, enough about it is known to tell us that his marvelous results are brought about by some changes bearing directly on the cell development of the plant in the embryonic stage.

The metamorphosed epithelium cell, or cancer cell, as we choose to call it, is endowed with certain inherent properties, not yet fully understood. That they are of a lower type and with less vitality seems quite probable.

Their ability to bring about a retrograde change in other cells lying in juxtaposition with them, though not understood, is quite probably due to the presence of a toxine created in the process of lowering cell vitality.

The distribution of cancer cells by a process known as metastasis through lymphatic ducts finding lodgment in neighboring lymphatic glands, thus establishing a secondary nidus, is quite well understood, and research work has demonstrated this characteristic feature: that whereas in most infective diseases, especially in tuberculosis, there is a multiplication of connective tissue cells present, forming what are known as nodules, wherever the bacilli settle, due to an inflammation excited by an enzyme the tendency of which, as in all inflammations, is to arrest the invading organisms and repair the damage done.

In the case of cancer, on the other hand, the secondary nodules are formed by the growth of actual cells, carried away from the original tumor, which are implanted as emboli in the distant tissues and develop the nodules, not to any great extent, by the multiplication of connective tissue cells, but mainly by the multiplication of the cancer cell.

As further evidence in support of the probable correctness of this theory of causation, we refer to the usual site of origin. We have all noticed the frequency of epithelioma on the lips, quite likely due to abnormal pressure from a pipe stem or a tooth out of line; cancer of the cervix, probably due to the cicatrix of a laceration; cancer of the breast, in all probability due to scar tissue following an abscess, and cancer of the stomach, the sequel of an ulcer in the lining of that organ. In every instance we recognize a condition predisposed to the development of just such a change as we so frequently encounter.

This leads to the question, must heredity be considered a factor in the causation of cancer? To this I answer no, if asked whether a cancer cell or cancer as a disease is inherited, but if asked if a predisposition to cancer is inherited, I answer yes. The prominent and irregular front teeth, the thin, rough and patchy skin which we so often see as traits passed down from parents to children, are fair examples of an inherited predisposition to cancer, but in these inherited traits we have no evidence of an inheritance of the actual disease.

There will always be a high percentage of cases in which a sufficiently early diagnosis, to head off metastasis, can not be made, and on this account we must look for a high mortality rate, despite all justifiable vigilance. Especially is this the case in cancer of the breast and those of the internal organs.

Admitting or rejecting, as we will, the correctness of any theory, the facts remain the same: harmless-appearing growths and conditions *do* develop into cancers, and they in turn give us the astounding death record quoted in the outset.

The questions, then, that come to us as medical men, are these: to what extent are we responsible for this high death rate and to what extent are we going to exert our abilities to reduce it?

ACUTE MASTOIDITIS*

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Menominee, Mich.

The modern mastoid operation, like many other surgical procedures, was originally attempted with a mistaken idea of the pathology, with imperfect technic, and with results accordingly unsatisfactory. Riolan first opened the mastoid in the middle of the seventeenth century for the relief of intractable deafness with tinnitus, the result of closure of the eustachian canal, believing that by so doing he would restore the atmospheric pressure in the middle ear and relieve the symptoms. Hess, a Prussian army surgeon, also attempted the operation for a similar purpose, and the procedure is known in otologic literature as the Hess operation. It was not until twenty years later that Petet, a French surgeon, grasped the general idea of the pathology of mastoiditis, opened the cells for caries and cured his patient. The imperfect knowledge of the pathology and anatomy of the ear produced a great variety of indications for the mastoid operation, with correspondingly uncertain results, which brought about the dark ages in otologic literature, and for over half a century the ear was left severely alone.

In the middle of the nineteenth century Willis Wilde, of England, the author of Wilde's incision, presented what was up to that time the most comprehensive idea of the pathology of mastoiditis. His operation, which consists in an incision down to, and if possible through, the periosteum over the mastoid, was generally believed to be the last step in the treatment of suppurative mastoiditis. The otologists of that day believed as Wilde taught, that opening of the mastoid cortex should be attempted only when the patient was *in extremis*, and even then with great reluctance, the step being regarded in the majority of cases as contributing simply to precipitate the fatal termination. We now believe that where Wilde's incision is indicated a mastoid operation is imperative, and it is therefore very seldom employed. It was not until 1864 that A. B. Crosby, an American, had the temerity to again open the mastoid cortex for purposes of drainage, and this he did with an ordinary gimlet with a good result. His triumph led to the development of the operation with the mastoid drill, which was the operation of choice up to the epoch-making discoveries of Schwartze in 1873, and which was taught and practised by many as late as 1885. The Schwartze operation with relatively insignificant refinements constitutes our present technic.

The etiology of suppuration of this peculiar cellular bony structure in a large majority of cases is an extension through the aditus ad antrum of a suppurative process in the middle ear, and if the middle ear disease is a complication of la grippe, scarlatina, or measles, there is much more danger of such extension.

A physical examination of the cellular osseous structure can not determine its vitality. In other words it is impossible by macroscopic examination to determine whether some cells of the mastoid will

*Read before the Fox River Valley Medical Society May 16th, 1911.

subsequently break down and others will not. The only safe course, therefore, is the complete removal of all mastoid cells whenever the cortex has to be opened for suppurative inflammation.

The muco periosteum which lines and nourishes the middle ear and antrum performs the same gracious service to the most remote cells of the mastoid, and while this is a most natural and highly beneficial arrangement in health, it exposes this cellular structure to infective invasion under circumstances admirably adapted for the rapid and extensive destruction of tissue. That every severe case of middle ear suppuration does not result in mastoid infection is doubtless due to the inflammatory edema of the muco periosteum which acts as a barrier to the passage of infection through the aditus, unless the infective process be very active or the resistance of the individual below par.

While clinical experience teaches that by far the most frequent method of infection of the mastoid cells is along the muco periosteum from the middle ear, there are occasional cases of metastatic infection. I have a patient at the hospital who presents an exceedingly interesting phase of the pathology. Her hearing is good, she has never had any middle ear disturbance of any consequence, and still I operated her for mastoid empyema which has pursued a most obstinate course in its repair. Another surgeon has also operated her for a pelvic abscess of long duration. In the absence of middle ear inflammation is it not reasonable to suspect the mastoid disease to be of this type? After thorough drainage and faithful after treatment had given disappointing results, this patient is recovering under the hyperemic treatment of Bier and the mixed streptococcus vaccines.

The recognition of the necessity for the modern mastoid operation is universal and enthusiastic, but as regards the indications that shall determine the expediency of immediate operation or the wisdom of pursuing temporizing measures of aborting the inflammatory process, there is perhaps no consideration in the whole field of otology about which there is more diversity of opinion. The attitude of the enthusiast who urges an exploratory mastoid operation whenever in acute suppurative otitis mastoid tenderness persists for twenty-four hours, finds its direct antithesis in the position of the practitioner who is not convinced of the necessity for operation until fluctuation can be readily felt over the mastoid region, and when evidences of sepsis are disgustingly plain.

It is manifestly impossible to harmonize opinions so widely at variance. Still such extravagant extremes find such zealous support that the doctor in trouble is often at a loss to know what course to follow, and the more he investigates the greater may be his uncertainty. It will be my endeavor to avoid either extreme—calling particular attention to the symptoms that have been of most value to me, although I wish to emphasize the fact that the necessity for surgical interference will often be found upon opening the mastoid to be far greater than the severity of the symptoms would suggest. First as regards personal history: pain which is described as a deep boring pain, or a sickening exhausting pain that grows worse at night, and especially if persistent in the mastoid region, must be considered strongly suspicious. If the discharge from the middle ear is excessive in amount or persists for more than a week, there is usually not good tympanic drainage, and if it suddenly diminishes coincident with the development of mastoid pain and tenderness, the case is one to be watched with great care. The temperature, pulse, and respiration are comparatively insignificant symptoms. They may be but

little increased or they may be markedly so. There is usually some indisposition to prolonged exertion, although the patient can hardly be considered sick. Chill, vertigo, vomiting, profuse perspiration and prostration are not symptoms of mastoid infection, but are indicative of intracranial complications. With children, as would be expected, the above manifestations are usually exaggerated.

As regards the local manifestations: the face shows the usual physiognomy of pain and deafness, but is otherwise not significant. Facial paralysis is an occasional symptom, but one which I have seen only once. The mastoid region is usually negative on inspection except later in the disease, when with the formation of a subperiosteal abscess, there is swelling in that region with crowding forward of the auricle. Examination of the external auditory meatus will show a discharge either copious or scanty. If it is less than before, and its diminution is associated with an increase of pain and mastoid tenderness, or if the discharge has been very profuse for a long period of time, it is a symptom of much significance. There may be in obscure cases, as the one I have mentioned, a mastoid empyema without any suppurative otitis media, but these are very rare indeed. The drum membrane may or may not be bulging, and if bulging is most significant if the most prominent portion is Schrapnell's membrane, which constitutes the upper portion of the ear drum. If the perforation is located in Schrapnell's membrane it is indicative of chronic suppurative otitis, and clinical experience teaches that a mastoid infection complicating a chronic suppurative inflammation of the middle ear pursues a more rapid course and is of graver prognostic import than if it be a complication of the acute disease. What has in my experience been the most reliable indication for surgery is sagging of the posterior superior canal wall close to the drum membrane, and therefore corresponding to the floor of the antrum. I have never seen a case in which there was sagging of the canal wall in this location when I did not find pus in the mastoid when opened, and the time I did not find pus on opening the antrum this symptom was not present. The indications for surgery in this particular instance will be discussed later.

Tenderness on deep pressure over the mastoid is a symptom so generally recognized that I seldom have a case referred to me whose mastoid has not been thus tested. There are three significant points of tenderness, which in the order of their relative frequence and diagnostic value are: 1st, over the antrum, 2d, the mastoid tip, and, 3d, the point of emergence of the mastoid emissary vein. In getting antrum tenderness exert firm pressure a little behind the auditory meatus up and back at an angle of about forty-five degrees, and to eliminate furunculosis be sure the external auditory canal is not disturbed. Tip tenderness is best elicited by pressure upward from below. The mastoid tip is normally tender in some individuals, so to have this symptom of diagnostic value one must compare with the opposite side. It is not an uncommon experience in mastoid surgery to find much of the structure so free from infection that the surgeon may think he has been too hasty, but upon continuing his investigations to the tip find the large cells here located one mass of suppuration. It is in these cases that tip tenderness only is pronounced. Tenderness on pressure over the point where the mastoid emissary vein leaves the skull, although not so constant as the two preceding symptoms, is also of diagnostic and prognostic value. Unfortunately the location of this opening is variable, but is usually about half an inch above and half an inch behind the tip.

When firm pressure at this point produces severe pain in marked contrast to pressure on either side of it, one may expect to find extensive destruction of the mastoid cells with probably extension through the inner table of the skull and the formation of an epidural abscess. Unfortunately these pressure symptoms are only general, as there may be pus in the mastoid with conditions demanding immediate operation without pain on pressure.

Fluctuation over the mastoid is an exceedingly tardy aid in diagnosis, as it indicates rupture through the mastoid cortex with formation of a subperiosteal abscess. Had this pus ruptured through the inner table, as it would seem quite as natural that it should, there would be less opportunity for surgery, but probably another case added to the fatal terminations of brain fever.

It is almost impossible to get a pure specimen from the middle ear for bacteriologic examination, and for that and other reasons it is not of great prognostic value.

DIFFERENTIAL DIAGNOSIS

Early in my practice I once prepared for a mastoid operation, but fortunately made a second and more thorough examination with a diagnosis of deep-seated furuncle, which proved correct. And that you gentlemen may be saved the embarrassment of seeing a patient rapidly recover after the spontaneous rupture of a furuncle, when you had prepared her and her family for a major surgical procedure, or what is far more distressing, that you may be saved the mental anguish and deserved censure that comes to a man whose patient has been assured that she has a simple furuncle and dies from the intracranial rupture of a mastoid abscess, it is my purpose to discuss the differential diagnosis at the risk of wearying you with minute details.

True, a typical acute mastoiditis is no more to be confused with simple furunculosis than an acute appendicitis is with a simple enteritis, but they are not the typical cases that call for the exercise of diagnostic skill and do most to establish reputations.

The pain and temperature in the two conditions is of little diagnostic value and may be similar. The discharge, however, is quite different. In mastoiditis the discharge is usually present and does not relieve the inflammatory symptoms. There is a history of purulent discharge preceding the mastoid inflammation. In furunculosis, on the contrary, swelling and pain in the meatus and mastoid precedes the discharge and with the appearance of the latter all inflammatory symptoms subside.

Inspection early in mastoid inflammation reveals little. Swelling when present later in the disease is usually below and behind the ear. In furunculosis redness and swelling of the meatus and mastoid surface appears very early, is higher up on the mastoid, and involves the meatus more than in the former condition. In mastoiditis there is usually a discharge, the external two-thirds of the canal is not swollen, but there is sagging of the posterior superior segment. In furunculosis there is usually little or no discharge, the swelling may occur anywhere along the meatus and may occlude it entirely, thus obstructing any view of the tympanic membrane from which pus may usually be seen to issue in the former condition, but which is normal or only slightly reddened in furunculosis.

Of especial value in the differential diagnosis is palpation of the auricle and mastoid. In mastoiditis uncomplicated with subperiosteal abscess, all movements of and traction on the auricle are painless, whereas in furunculosis such manipulation is acutely painful. In mastoiditis deep pressure over the mastoid is painful, particularly over the antrum, tip, and

emissary vein, regardless of whether or not the auricle is moved. In furunculosis mastoid pressure is practically painless provided the auricle is not disturbed.

Unfortunately the proportion of cases which present the classical symptoms, both objective and subjective, do not represent the majority of those presented for treatment. In some the mastoid symptoms are pronounced from the first, but the fundus changes—discharge, sagging of the canal wall, and bulging—are at no time pronounced, or the fundus changes may be conspicuous with insignificant mastoid manifestations. Again, a patient after an attack of one of the exanthematous diseases may present symptoms of mastoiditis, hardly sufficient to justify surgery, but when the mastoid is opened the extent of the destruction wrought by the suppurative process is not only alarming, but suggestive of neglect.

While undue and injudicious haste is to be deprecated, given any case presenting the symptom complex above enumerated, the mastoid cortex should be opened, for if the careful perusal of otologic literature teaches anything, it teaches that in the past our sins of omission have in this particular been far greater than our sins of commission. In my own experience I have never opened but one mastoid where I did not find pus, and in that the operation was done for the distinct purpose of relieving an unbearable mastoid neuralgia, and did relieve it by draining the mastoid of an excessive serous exudate. With this exception I have been repeatedly alarmed at the extensive destruction of the mastoid structure, often involving the integrity of inner table of skull, and firmly believe that in doubtful cases the operation, while a major surgical procedure, is far less dangerous than the disease and should be resorted to more frequently than it is.

Given a case of mastoiditis, following an acute suppurative otitis media, what should be the treatment—operate at once or try conservative measures? If the symptoms are alarming, operate. If not, be sure that the ear is draining freely, and if necessary do a free paracentesis of the drum membrane, carrying the incision out along the posterior superior canal wall, thereby doing an internal Wilde's incision. The mastoid ice-cap may be employed from twenty-four to forty-eight hours, and this with cleansing the ear in addition to elimination, etc., constitutes our non-surgical treatment. The ice-bag to be of value must be an ice-bag, not a bag full of more or less cold water, and must be applied constantly. It should not be used more than forty-eight hours, as it certainly relieves the pain, and if the subjective symptoms are thus held under control for too long a period great destruction may occur.

It is manifestly impossible to keep a subject of this kind within reasonable limits and give more than a most general description of the surgical technic.

After the patient has been prepared according to the rules of aseptic surgery, an incision is made over the mastoid region extending from the tip along the margin of the insertion of the auricle, leaving just enough room for the insertion of sutures, to a point almost corresponding to the upper margin of the external ear. This incision should not extend further upward than is necessary to retract the flap well, as the severing of unnecessary fibers of the temporal muscles may result in the ear sagging. It has been my custom of late to follow the teachings of Whiting and make a posterior flap extending directly backward from a point corresponding to the external meatus. In elevating the periosteum and retracting the flaps the utmost care should be exercised to preserve this nutrient membrane, and it is to emphasize

this point that the method of making the primary incision is fully discussed. The use of the self-retaining retractors will expose the mastoid region throughout its entire extent, so that the finger can be passed around the tip. The tissues must be so retracted that the bony meatus may be kept constantly in view, as it is an important landmark and guide.

Inspection of the field of operation will now give much valuable information. If you have a large broad flat mastoid with the angle formed by the mastoid cortex with the external auditory meatus an obtuse angle, the lateral sinus will probably be deep seated and situated so far back that with ordinary care there is little danger of wounding it; but if the process is round and narrow, be prepared for trouble, as the chances are that the sinus is superficially located and well forward. I have a case in the hospital whose lateral sinus was situated so far forward that it was impossible to get between it and the bony wall of the meatus with the narrowest chisel, without uncovering that great vessel. While these suggestions are general and in the majority of cases can be depended upon, it must ever be borne in mind that the location of the lateral sinus is as Knapp has aptly expressed it, "anywhere in the temporal bone."

There may be presented one or more fistulous openings through which the mastoid abscess has ruptured, and it is optional with the operator whether he enter the cavity along these openings that nature has provided or ignore them.

The suprameatal triangle should be mentally outlined, as a drill hole in this triangle will usually enter the antrum. The temporal ridge, that is, the posterior extension of the zygomatic arch, must be definitely located, as it is very little below the floor of the middle fossa, and you must not go above it unless you wish to enter the cranial cavity.

After the surface has been carefully inspected and a general idea obtained as to the location of the sinus, etc., there are two methods of proceeding with the operation. European operators and many in this country believe in going directly to the antrum by chiseling parallel to the posterior superior margin of the bony meatus until the antrum is reached, and then remove all necrotic tissue. Another method, of which Whiting of New York is a prominent exponent, is to make a primary mastoid groove beginning at the temporal ridge immediately behind the bony meatus, and continue the groove to the tip of the mastoid. Then with curette and rongeur cautiously enlarge the opening and clean out all necrotic cells, letting the opening of the antrum be simply one step in the operation to be accomplished when most convenient. Personally I greatly prefer the latter method. Had I been chiseling in a small deep opening with the patient who had the anteriorly located sinus, the danger of injuring the vessel would have been much greater, and such an injury in the bottom of a small opening is much more difficult to care for than when one has sufficient room.

The further steps in the operation consist simply in the removal of *all* necrotic tissue, and in this respect the modern mastoid operation differs especially from the operation of Schwartze of forty years ago. While the earlier operators were content to drain the antrum, the modern otologic surgeon wishes to convert the antrum as nearly as possible into a shallow cup by virtue of most complete and thorough elimination of all mastoid cells, and to extend this cleansing process to the cells of the zygoma, the mastoid tip, and as far back as is indicated. Such thorough eradication of diseased tissue has resulted

in making the secondary operation almost unknown and shortened the healing process very materially indeed. It is not so very long ago that we were taught to remove only those cells which appeared diseased, but recent investigations have proven conclusively that macroscopic inspection can not distinguish the diseased from the healthy, and it is, therefore, much the better way to eradicate all. Thus the inner table of the skull becomes a smooth surface presenting an elevation over the lateral sinus, but with no cavities to harbor necrotic tissue which may subsequently cause trouble.

First among the accidents during this operation is injury to the lateral sinus. If its bony wall does not appear perfectly healthy, the diseased portion should by all means be purposely removed, and if under this is found a dura covered with granulations the sinus should be still further uncovered until a margin of healthy dura is presented. By so doing we know where the disease process ends and that there is no pus undrained. While it is not pleasant to uncover so important a vessel, it has been my fortune to meet with mastoid cases of such a type that the sinus has been exposed in more than one-half of my operations. Far different from simply uncovering the sinus is its injury, as this is a matter of extreme gravity both because of the danger of hemorrhage and of infection.

The functional result after the healing of the mastoid wound is usually very satisfactory. The time necessary for repair will depend very largely upon the thoroughness with which the operation is performed, and if all diseased bone is eradicated the patient should be able to leave the hospital in two or three weeks.

Just a word in regard to prophylaxis. After the infection has once extended to the mastoid, it is often impossible to avoid surgical treatment, so prevention of surgery depends upon the successful prevention of such extension. The paracentesis knife should be far more generally used by the general practitioner, and if his incisions are limited to the lower half of the tympanic membrane they are safe. An incised wound of the tympanic membrane will heal with much less scar than the tear of spontaneous rupture, and the prompt drainage thus obtained will lessen the destruction of intra-tympanic structures, as well as be a remarkable safeguard to the deeper tissue.

It is a pleasure to note that such incision under proper illumination, followed with antiseptic irrigation or dry treatment, as the case may indicate, is superseding sweet oil and Faith in the treatment of acute suppurative otitis media, and when this method of treatment is more generally adopted many an attack will be aborted which otherwise would develop a mastoiditis necessitating surgical interference.

The next Annual Meeting of the Michigan State Medical Society will be held in Detroit September 27-28, 1911.

Annual Meeting of the Upper Peninsula Medical Society at Escanaba July 27-28, 1911.

IMMUNOLOGY OF ACUTE INFECTIONS*

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Resistance against infection depends upon a number of means at the disposal of the organism. Which one plays the predominant part in a given case depends largely upon the predominant characteristic of the invader, and upon which one is operating also depends greatly, at the present time at least, the measure of our success in passively supplying biological aids to this defense. In the case of infections such as diphtheria and tetanus, where the damage is caused mainly by the absorption of diffusible toxins from a bacterial growth which is limited to a particular locality, we have been able to supply the patient with an amount of anti-toxin sufficient in most instances for his protection or cure.

In a large class of other infections, however, in which the symptoms are produced and the disease continues because of the growth and destruction in the blood system itself of the invading micro-organisms, and in which, because of this destruction in the blood stream and lymphatics, endotoxins are liberated with their deleterious effects, our efforts have been largely unsuccessful.

At present such serums as are employed depend mainly for their theoretical and practical effects upon their lytic powers, viz., their ability to cause lysis or solution of the bacteria against which they have been prepared. In other words, they are serums rich in immune substances, and particularly those immune substances responsible for bacteriolysis. These immune bodies are the product of repeated inoculations of perfectly healthy animals with increasing doses of the specific organisms. As a result of these repeated doses, the serum of the inoculated animal gradually acquires a high degree of destructive power for the organisms which have constituted the inoculations. The measure of this destruction depends upon the freshness of the serum. Namely, when freshly drawn, it is high in lytic power. Upon keeping, due to the deterioration of certain labile substances, this power diminishes, but can be fully restored by the addition of small amounts of serum from any normal animal.

The employment of such serums, with the hope that benefit may be derived from them, demands the assumption of the presence of certain substances in the blood of the recipient which will render the dose fully potent, as well as a poverty in those immune bodies which are about to be injected. These assumptions are, to be more specific, that the injected antibodies will find in the blood of the patient a sufficient amount or concentration of those labile substances which were present in the immune serum when it was drawn from the animal but which have been lost by aging, and, secondly, that the stabile substances formed as a result of the infection are present in insufficient amount or concentration.

Therapeutic injections of bacterins require similar assumptions. For it is a well-established fact that bacterial inoculations give rise to the production of certain stabile antibodies, but influence very little,

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if at all, the content of labile substances.

If these assumptions are correct, we should, it seems to me, expect greater results from both lytic serums and bacterial injections in acute conditions. However, we are cognizant of the shortcomings of both of these forms of treatment in such processes. Further, through experiment we have long known that the production of immunity to a given micro-organism in a perfectly healthy animal is far easier than to produce cure of an infection once it has taken hold, and the protection of an animal against an inoculation of pathogenic organisms by the simultaneous injection of a dose of lytic serum is more frequently successful than the production of cure in an already infected animal by the injection or repeated injections of a lytic serum which would have protected him before the organisms had really got hold.

That this should be true has seemed enigmatical. In the hope of elucidating the matter somewhat, a number of experiments have been undertaken which I wish to present.

That we may get the matter in understandable form, therefore, it would seem to be advisable to review briefly but somewhat in detail certain fundamental facts. It will be recalled that bacteriolysis or solution of bacteria occurs in the serum of an animal which has been rendered immune to the particular micro-organisms both in vivo and in vitro. This action is rendered possible by the residence in the immune serum of two factors. (Pfeiffer, Metschnikoff, Bordet, etc.)

The first of these, the alexin or complement, is found in any fresh serum. It is destroyed gradually on standing and by the influence of heat and various chemicals. The second, the amboceptor of Ehrlich or substance sensibilisatrice of Bordet, while present to some extent in most serums, is mainly the product of inoculation or immunization and is relatively stable. When bacteria encounter in a serum their specific amboceptors, complement or alexin of course being present, a combination occurs between the bacteria, the amboceptors, and the complement. This results in a solution of the micro-organisms, which is quite as complete as and is comparable to the solution of grains of sugar in water.

That a reaction of the above character may occur in vitro, however, requires the presence of certain favorable thermic conditions. Amboceptor can combine with the bacteria or antigen at any temperature; alexin is most active at the temperature of the body.

Not only are these facts regarding solution true in the case of bacteria, but it has been found that a similar result is obtained when an animal is rendered immune to the blood cells of an animal of another species. This latter phenomenon is called hemolysis.

Moreover, certain quantitative relationships have been learned about hemolysis and bacteriolysis. (Neisser, etc.) Namely, it has been found that within certain limits this relationship is such that the employment of a large amount of one factor, say complement, permits the use of a less amount of the other factor, namely the amboceptor. With less than one unit of amboceptor, even though there be more than one unit of complement, hemolysis, of course, cannot be complete. Neither can it be complete in the presence of one unit of amboceptor and less than one unit of complement. When more than one unit of amboceptor and less than one unit of complement are used, however, hemolysis may or may not be complete, according to the relative amounts of each factor used. An amount of complement too small to produce hemolysis when used with one amboceptor unit may produce complete hemolysis with several amboceptor units.

Hence it can be seen that with such a relationship existing, where any attempts at measurements in vitro are to be made, the employment of definite quantities of each factor is necessary in order to obtain any accurate knowledge of the relative amounts of either factor present in a given serum.

The Wasserman test for syphilis is a manipulation of the various principles entering into the phenomena of bacteriolysis and hemolysis as above stated, whereby a suspected serum is tested for the presence of specific immune bodies.

Because the value of this reaction is now so well established, and because of the often inconclusive findings with the Widal test in typhoid fever, the suggestion lent itself to me that perhaps a test for bacteriolytic antibodies might yield an earlier and larger percentage of positive results than the test for agglutinins.

A series of experiments were therefore undertaken with the object of learning whether bacteriolytic immune bodies are present during the course of typhoid fever.

Fifty-one cases in all have now been examined, with the result that it can be definitely stated that bacteriolytic antibodies are present throughout the course of the disease and are present in no small amounts.

In the first twenty-seven cases examined, the report of which has appeared in a previous communication,* I was quite unaware of the quantitative relationships I have mentioned above, and my conclusions drawn at that time are open to criticism because of this fact. Lately, however, in a series of twenty-four cases, I have been able to arrive at the same conclusions while taking cognizance of these relationships.

The determination of the fact that typholytic amboceptors are present during the course of the disease, as with the Wasserman test, is accomplished by a manipulation of the various factors entering into hemolysis and bacteriolysis. The preparation of the various components used is as follows:

SERUM

The serum to be tested is obtained thus: Into a sterile simplex syringe, i. e., that variety used by dispensers of biological products as containers for antitoxin, etc., are drawn two or three cubic centimeters of a sterilized anticoagulating fluid. The fluid I have used has been a 1% sodium citrate in .85% sodium chloride solution. The reason for the employment of a fluid which prevents the blood from coagulating, in this instance, is that I have found it a somewhat more convenient way of obtaining serum in sufficient quantities than obtaining it after clotting, and also because of the fact that where it is desired to measure the complement content, we can be sure that this has not been raised by the expression of alexin from the leucocytes during the clotting. The area over the median basilic or cephalic vein of either elbow of the patient is rendered aseptic after the usual methods, the vein entered with the needle of the syringe, and an amount of blood equal to the volume of anticoagulant withdrawn by slowly drawing on the piston. The mixture is shaken and stood away to settle. After from six to twelve hours the corpuscles are found to have settled upon the piston head, while above them is a supernatant clear straw-colored fluid which is approximately one-half full strength serum.

HEMOLYTIC SERUM

A hemolytic serum is obtained by inoculating a guinea pig or rabbit subcutaneously at about four or five day intervals with two or three cubic centimeters of washed human blood corpuscles in normal

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saline solution. Each successive dose is increased by one or two cubic centimeters. Four or five injections usually produce an effective serum. Ten days after the last injection, the blood is obtained from the animal by puncturing the heart with a needle attached to a simplex syringe containing anti-coagulant. The supernatant fluid remaining after the corpuscles have settled is carefully decanted and the complement contained in it destroyed by heating at 56° C. for one half hour. Before being ready for use, the amboceptor content must now be standardized as follows:

Into a series of test tubes is placed a definite and equal amount of 5% corpuscle suspension (1 C. C.) and then there is added to each tube an amount (.2 C. C.) also definite and equal, of a normal serum which has been found incapable in itself of causing hemolysis. There is next added, in series, decreasing graduated amounts of the inactivated hemolytic serum, and finally to each tube normal saline solution is added to a constant volume. The titre is expressed as the smallest amount of the serum which produces complete hemolysis in the presence of the excessive amount (.2 C. C.) of the given complement.

BACTERIA

Twenty-four hour agar slant cultures of typhoid bacilli are washed off with physiological salt solution and standardized, so that each cubic centimeter contains 500,000,000 bacilli.

BLOOD CELLS

Red corpuscles from a normal human being are secured in a manner similar to that described for obtaining the serum from a typhoid patient. After settling, the supernatant fluid is forced out of the syringe by pushing the piston and more anti-coagulant drawn in to replace it. The corpuscles are thus washed at least three times, and after dilution to make a 5% suspension are ready for use.

THE TEST

In applying the test, .2 C. C. of serum from the patient with suspected typhoid is placed in a small test tube and to it is added 1 C. C. of the bacterial suspension. The tube is kept at body temperature for one hour. If the patient has typhoid fever and typhoid amboceptors are present, the following combination should occur:

Complement amboceptor + bacteria = solution.

After keeping the tube at 37 degrees centigrade for one hour to allow the above combination to occur, if possible, two amboceptor units (in the case of the present series .2 C. C.) of the inactive hemolytic serum and 1 C. C. of the 5% suspension of blood cells are added. The tube is again placed in the incubator, this time for two hours. Upon removal from the incubator it is allowed to stand on the ice for twenty-four hours longer. If the patient from whom the serum was taken has typhoid fever and amboceptors are present, the combination of complement, amboceptors and bacteria will occur. This causes the using up of all the complement of the serum. After the addition of the inactivated hemolytic serum and the blood corpuscles, there being no complement left to enter into the combination, hemolysis cannot occur and the blood cells remain undissolved.

If, on the other hand, the patient does not have typhoid fever, the complement will still remain, there being no amboceptors to enter into combination with it and the bacteria. It will hence be free to act when the inactive hemolytic serum and blood corpuscles are added, and the following reaction will occur:

Complement + hemolytic amboceptors + blood cells = hemolysis. This is in-

dicated by the presence in the tube of a wine red transparent fluid.

In the tests as set up, .2 C. C. of the serum anticoagulant solution are employed in each case, .2 C. C. of the diluted serum being considered equivalent to .1 C. C. undiluted serum such as is obtained from clotting of blood, and in the case of normal pooled serum this amount almost invariably contains enough complement to hemolyse 1 C. C. of a 5% suspension of corpuscles in the presence of 2 amboceptor units.

As previously stated, this test has been applied to serum from fifty-one patients, all of them either frank or suspected cases of typhoid fever. In thirty-seven of these, presenting throughout the typhoid syndrome, typholysins were found to be present. In one case the patient had not been longer than three days sick. In another case, although clinically typhoid, neither the Widal nor lysin test could be obtained, and we were forced to designate it paratyphoid. In the thirteen remaining cases, with typholysins absent, the subsequent history showed them to be illnesses of another character.

We may conclude, therefore, that lytic antibodies are early demonstrable in typhoid fever.

These findings suggest an interesting line of thoughts. Lytic anti-bodies are present during the height of infection, and are hence not used up as fast as formed, as would almost be expected. Why? Complement is of course present. But the infection still continues. With amboceptors in the blood, why does not lysis of the germs occur and the disease cease? For it has been shown by Coleman and Buxton that the blood is responsible for the destruction of the organisms with the liberation of their endotoxins, which action is responsible for the symptoms of the disease. Complement + amboceptor + bacteria should produce solution of the organisms, and following this we should soon expect a cessation of the symptoms. Can it be that complement is deficient, and, if deficient, that this has some bearing upon the course of the disease?

In order to elucidate this point it is necessary to determine what the average complement content of serum from normal individuals is, and see how that complement content compares with that of the serum of typhoid patients. Several ways of determining this relationship are possible, and I have employed at various times different methods. In my earliest work, before I realized the existence of the quantitative relationships previously mentioned, I employed a manipulation in which the following constituents were used:

1. Serum from three or four normal individuals pooled.
2. Serum from patients in various stages of typhoid fever.
3. Five per cent. suspension of washed human erythrocytes.
4. Serum of a guinea pig which had been immunized to human blood cells, and in which the complement had been rendered inactive by heating at 56 % C. for one-half hour.
5. Serum from patients just recovered from typhoid.

The typhoid, normal or post-typhoid serum supplied the complement; the hemolytic serum furnished the hemolytic amboceptors. Complement + blood cells + hemolytic amboceptors should give solution of the blood cells.

In the tests as set up in this series, the activity of the complement contained in the serum being tested was gauged by the volume of blood corpuscles a definite and fixed amount could lake when in the presence of an amount, also definite and fixed, of hemolytic amboceptors, the further condition being that the tubes remained in the incubator two hours and then re-

mained at room temperature for twenty-four hours.

Gauging the amount of bacteriolytic complement present by the amount of hemolytic complement is legitimate if the observations of Gay and Ayer are true concerning this point.

By actual experiment they were able to prove to their satisfaction the truth of the opinion long held by Bordet and his school, that hemolytic and bacteriolytic complement may be used interchangeably.

The following chart represents an average finding by this method:

(1) .2 C. C. normal serum + 1 C. C. erythrocytes + .2 C. C. hemolytic serum = complete solution.

(2) .2 C. C. normal serum + 1.5 C. C. erythrocytes + .2 C. C. hemolytic serum = complete solution.

(3) .2 C. C. normal serum + 1.75 C. C. erythrocytes + .2 C. C. hemolytic serum = partial solution.

(4) .2 C. C. normal serum + 2 C. C. erythrocytes + .2 C. C. hemolytic serum = very little change.

(5) .2 C. C. typhoid serum + .7 C. C. erythrocytes + .2 C. C. hemolytic serum = very little change.

(6) .2 C. C. typhoid serum + .5 C. C. erythrocytes + .2 C. C. hemolytic serum = partial solution.

(7) .2 C. C. typhoid serum + .25 C. C. erythrocytes + .2 C. C. hemolytic serum = complete solution.

(8) .2 C. C. post-typhoid serum + .25 C. C. erythrocytes + .2 C. C. hemolytic serum = complete solution.

(9) .2 C. C. post-typhoid serum + .5 C. C. erythrocytes + .2 C. C. hemolytic serum = complete solution.

(10) .2 C. C. post-typhoid serum + .7 C. C. erythrocytes + .2 C. C. hemolytic serum = complete solution.

(11) .2 C. C. post-typhoid serum + 1 C. C. erythrocytes + .2 C. C. hemolytic serum = complete solution.

(12) .2 C. C. post-typhoid serum + 1. 5 C. C. erythrocytes + .2 C. C. hemolytic serum = complete solution.

(13) .2 C. C. post-typhoid serum + 1. 75 C. C. erythrocytes + .2 C. C. hemolytic serum = partial solution.

(14) .2 C. C. post-typhoid serum + 2 C. C. erythrocytes + .2 C. C. hemolytic serum = very little change.

The following conclusions therefore seem justified:

1. In a given volume of normal serum there are several times as much complement present as is present in a given volume of serum from a typhoid fever patient.

2. In the serum of a patient recovered from typhoid the amount of complete approximates or equals the amount in normal serum.

About this time I encountered an article which Thompson had published in 1903 concerning the results of a comparative measurement of the complement content of a series of variola, varioloid and normal serums, gauged by the bactericidal powers of a measured quantity on typhoid and B. Coli organisms. The method consisted in adding a definite quantity (1-20th C. C.) of the serum to be tested to 1 C. C. of inactivated serum, either rabbit or human, in contact with a definite volume of a definitely dense suspension of the organisms for from six to twenty-four hours, transferring two loopfuls to a tube of liquefied agar which was then plated and the colonies which developed counted. He found that under such circumstances this amount of normal serum in contact with the given volume of typhoid suspension was sufficient to ensure perfectly sterile plates, while in the case of serum from individuals sick with variola and varioloid, from six to fourteen thousand colonies usually developed.

Employing his technique in regard to typhoid serums in a series of ten cases, the results were as follows:

Case	Colonies at end of 24 hours	Case	Colonies at end of 24 hours
1	12400	6	20800
2	14650	7	21900
3	19400	8	13600
4	18400	9	12800
5	8040	10	11000

Although entirely different in the method of procedure, the results of these experiments warrant the conclusion that the bactericidal power of serum from typhoid patients against the typhoid bacillus is less than that of serum from normal individuals. And inasmuch as it is generally held (and easily verified) that the bactericidal power of serum depends upon its complement content, the above statement is equivalent to saying that the complement content of typhoid serum is considerably lower than that of normal serum.

In endeavoring further to assure myself that there is really a lowered complement content during the course of typhoid fever, a final series of tests along this line were conducted, in which the constituents were practically the same as those employed in my first series of tests, but in which there was employed in each instance a definite volume (1 C. C.) of a 1% suspension of corpuscles and two hemolytic amboceptor units, it being considered conducive to greater accuracy to use an excess of amboceptors, with graduated amounts of the serum to be tested and the whole brought to a constant volume by the addition of salt solution, the titre of the complement content being the smallest amount of serum which was found to be necessary for the complete dissolution of all the corpuscles.

Establishing my normal standard by this method, I found that .03 C. C. of my citrate-normal serum combination sufficed to surely cause hemolysis of 1 C. C. of 1% corpuscle suspension in the presence of two hemolytic amboceptor units, the conditions being that the amboceptors and corpuscles should be incubated for one hour, the complement then added, and the reaction read at the end of ten minutes.

Gay, using 1 C. C. of 5% corpuscles saturated with hemolytic amboceptors as a standard, has found that an average of 1-40th C. C. of normal serum is required to furnish enough complement to lake all the corpuscles. When we consider that the alexic activity of serum is augmented during the process of clotting owing to the fact that alexin is expressed from the leucocytes, and the fact that by using citrate solution in which to receive the blood that clotting is prevented together with this indefinite increase in alexin, and also the fact that the serum used in my tests is diluted with an equal amount of citrate solution, our standards, at first consideration seemingly so different, are probably nearly equivalent. Chart Number 2 demonstrates the manner of procedure:

CHART NO. 2

(1) 1 C. C. of 1% corpuscles + 2 amboceptor units + .01 C.C. citrate normal serum + citrate to constant volume.

(2) 1 C. C. of 1% corpuscles + 2 amboceptor units + .02 C. C. citrate normal serum + citrate to constant volume.

(3) 1 C. C. of 1% corpuscles + amboceptor units + .03 C. C. citrate normal serum + citrate to constant volume.

(4) 1 C. C. of 1% corpuscles + 2 amboceptor units + . 04 C. C. citrate normal serum + citrate to constant volume.

(5) 1 C. C. of 1% corpuscles + 2 amboceptor units + . 05 C. C. citrate normal serum + citrate to constant volume.

(6) 1 C. C. of 1% corpuscles + 2 amboceptor units + . 1 C. C. citrate normal serum + citrate to constant volume.

(7) 1 C. C. of 1% corpuscles + 2 amboceptor units + . 15 C. C. citrate normal serum + citrate to constant volume.

(8) 1 C. C. of 1% corpuscles + 2 amboceptor units + . 01 C. C. citrate typhoid serum + citrate to constant volume.

(9) 1 C.C. of 1% corpuscles + 2 amboceptor units + . 02 C. C. citrate typhoid serum + citrate to constant volume.

(10) 1 C. C. of 1% corpuscles + 2 amboceptor units + . 03 C. C. citrate typhoid serum + citrate to constant volume.

(11) 1 C. C. of 1% corpuscles + 2 amboceptor units + . 04 C. C. citrate typhoid serum + citrate to constant volume.

(12) 1 C. C. of 1% corpuscles + 2 amboceptor units + . 05 C. C. typhoid citrate + citrate to constant volume.

(13) 1 C. C. of 1% corpuscles + 2 amboceptor units + . 1 C. C. typhoid citrate + citrate to constant volume.

(14) 1 C.C. of 1% corpuscles + 2 amboceptor units + . 15 C. C. typhoid citrate + citrate to constant volume.

(15) 1 C. C. of 1% corpuscles + 2 amboceptor units + . 2 C. C. typhoid citrate + citrate to constant volume.

(16) 1 C. C. of 1% corpuscles + 2 amboceptor units + . 25 C. C. typhoid citrate + citrate to constant volume.

(17) 1 C. C. of 1% corpuscles + 2 amboceptor units + . 3 C. C. typhoid citrate + citrate to constant volume.

(18) 1 C. C. of 1% corpuscles + 2 amboceptor units + . 4 C. C. typhoid citrate + citrate to constant volume.

(19) 1 C. C. of 1% corpuscles + 2 amboceptor units + . 01 C. C. post-typhoid citrate + citrate to constant volume.

(20) 1 C. C. of 1% corpuscles + 2 amboceptor units + . 02 C. C. post-typhoid citrate + citrate to constant volume.

(21) 1 C. C. of 1% corpuscles + 2 amboceptor units + . 03 C. C. post-typhoid citrate + citrate to constant volume.

(22) 1 C. C. of 1% corpuscles + 2 amboceptor units + . 04 C. C. post-typhoid citrate + citrate to constant volume.

(23) 1 C. C. of 1% corpuscles + 2 amboceptor units + . 05 C. C. post-typhoid citrate + citrate to constant volume.

(24) 1 C. C. of 1% corpuscles + 2 amboceptor units + . 1 C. C. post-typhoid citrate + citrate to constant volume.

In the manner illustrated in this chart a comparison has been made between the complement content of thirty normal serums, forty typhoid serums, and eleven serums of patients recently recovered from the disease.

The tabulation of the complement-content of the normal cases in terms of the amount of citrate serum required to cause complete laking is as follows:

Case	Required	Case	Required
1	.02 C.C.	16	.01 C. C.
2	.03 "	17	.03 "
3	.01 "	18	.02 "
4	.01 "	19	.02 "
5	.03 "	20	.02 "
6	.01 "	21	.03 "
7	.02 "	22	.01 "
8	.01 "	23	.02 "
9	.02 "	24	.05 "
10	.01 "	25	.02 "
11	.01 "	26	.02 "
12	.03 "	27	.05 "
13	.02 "	28	.1 "
14	.01 "	29	.02 "
15	.01 "	30	.03 "

On an average .023 C. C. of citrate-normal-serum was required for a complete reaction, and this may be taken as the average of the complement content of this series of normal serums.

In the case of the typhoid serums examined, the tabulation is as follows:

Case	Required	Case	Required
1	.04 C.C.	21	.07 C. C.
2	.05 "	22	.14 "
3	.1 "	23	.07 "
4	.15 "	24	.04 "
5	.08 "	25	.04 "
6	.05 "	26	.07 "
7	.07 "	27	.1 "
8	.07 "	28	.05 "
9	.1 "	29	.04 "
10	.08 "	30	.05 "
11	.04 "	31	.07 "
12	.05 "	32	.05 "
13	.17 "	33	.08 "
14	.07 "	34	.04 "
15	.05 "	35	.13 "
16	.04 "	36	.05 "
17	.05 "	37	.07 "
18	.1 "	38	.03 "
19	.04 "	39	.05 "
20	.04 "	40	.05 "

The average amount of typhoid serum required to furnish enough complement to react completely is seen to be about .068 C. C., an amount greatly in excess of the amount of normal serum required to

produce the same effect. Hence, it is evident that during the course of typhoid fever, complement is greatly diminished. Further, it was noted by reference to the chart of the patient that the nearer to convalescence we were, the higher the titre of the serum.

The tabulation of the results obtained in testing the post-typhoid serum is as follows:

Case	Required	Case	Required
1	.01 C.C.	7	.01 C. C
2	.02 "	8	.04 "
3	.01 "	9	.02 "
4	.02 "	10	.02 "
5	.05 "	11	.03 "
6	.03 "		

Attention to these results shows that in post-typhoid serum, the complement content again coincides fairly accurately with that of a normal serum.

Up to this point, then, we have learned that lytic amboceptors or immune bodies are present during the course of typhoid and that this presence of immune bodies is accompanied by a low complement content. We know that in an immune serum we have a normal complement content associated with a great excess of amboceptor. Can it be that during the course of an infective fever, i. e., during the stage of acquiring immunity, that associated with the low complement content there may be a relatively high amboceptor content? To determine whether such a relationship as we have surmised really does exist or not, another rather complicated series of tests are required.

Definite and equal quantities of serum from the infected individual and organisms of the kind the person from whom the serum is taken is infected with are mixed in a series of test tubes, in such amounts that when in contact with the specific amboceptors there are sufficient bacteria to fix all the complement in the volume of serum used. To the series of test tubes containing the above combination, are added graduated amounts of normal serum. The amount of normal serum which needs to be added to such a combination in order to produce fixation of all the specific immune amboceptors and leave enough complement free to produce complete hemolysis of a fixed volume of corpuscles will give an approximate idea of the excess of bacteriolytic amboceptors over complement. Thus:

(1) .2 C. C. typhoid serum + 1 C. C. typhoid bacilli (500,000,000 per C. C.) + incubation one-half hour + .25 C.C. 5% erythrocytes (an amount which would be completely hemolysed by .2 C. C. typhoid + 2 hemolytic units) + 2 hemolytic units.

(2) .2 C.C. typhoid + 1 C.C. bacteria + .5 C. C. normal + incubation + . 25 C. C. erythrocytes + 2 units hemolytic.

(3) .2 C. C. typhoid + 1 C.C. bacteria + 1 C. C. normal + incubation + .25 C. C. blood + 2 units hemolytic.

(4) . 2 C. C. typhoid + 1 C. C. bacteria + 1. 5 C. C. normal + incubation + .25 C. C. blood + 2 units hemolytic.

(5) . 2 C. C. typhoid + 1 C. C. bacteria + 2 C. C. normal + incubation + .25 C. C. blood + 2 units hemolytic.

(To all of these citrate was added to make a total quantity 4.25 C. C.)

(In these tests when done with a specimen from one typhoid patient, in Number 2 hemolysis was complete, thus showing that while an excess of amboceptors over complement was present, nevertheless the excess was not very great.)

It was found in the main that when .2 C. C. typhoid serum is incubated for one hour in the presence of 500,000,000 typhoid bacilli and an excess of normal serum, to permit the combination of complement, bacteria and typhoid amboceptors, and then adding to the mixture .25 C. C. erythrocytes and two units of hemolytic serum, that in the combination of .2 C. C. typhoid serum plus 1 C. C. normal serum there is still insufficient complement to

saturate all of the typhoid amboceptors and leave sufficient complement free to combine with the hemolytic amboceptors and accomplish hemolysis.

This whole test, therefore, demonstrates that during the course of typhoid fever an excess of typhoid amboceptors is present, and that the amount of complement which is present is not at all proportionate. Repetition of tests, using specimens taken from the same patient at different times and from other patients, discloses the fact that what complement is present varies from time to time in the same patient and varies in different patients, but is always far less than the amount of amboceptor, and, further, it is always less than in normal serum, at least until convalescence begins. And immediately after convalescence begins, the complement content returns to the point it was before the infection began, the amboceptor content still remaining high. Thus is attained the relationship we know to be present in an immune serum, viz., a high amboceptor content associated with a normal amount of complement.

Another rather easy way of gaining some idea of the deficiency of complement and its association with a high amboceptor content, though incapable of anything like accurate measurement, is as follows:

To a definite volume of serum from a normal individual is added two loopfuls of a broth culture of the organism against which it is to be tested and the mixture incubated for twelve hours. This gives an opportunity for the full bactericidal action of the serum to assert itself. Two loopfuls of this mixture are now transferred to a tube of liquefied agar, plated, and the plate placed in the incubator for twenty-four hours. At the end of this time it is examined and it is noted that quite a fair growth has developed.

The same procedure is gone through with in the preparation of a second plate, except that serum from the individual with the infection is employed instead of that from a normal person. At the end of the second incubation it is found that in this instance the plate is simply overgrown.

In preparing a third plate an amount of inactivated serum from the infected individual equal to the amount of active serum originally employed is combined with the bacteria and incubated. An equal amount of active normal serum is now added and the mixture again incubated. After this incubation a plate is prepared. The colonies which develop in this instance are found to be very few, fewer far than the number developing in either of the preceding instances. This of course demonstrates, although somewhat crudely, that serum from an infected individual is far less germicidal for the organisms producing the infection than is an equal volume of serum from a normal person, and, further, that the amboceptor content of such a serum when added to the complement and amboceptor contained in an equal volume of normal serum enhances the germicidal power to such an extent that it can only be attributed to the richness of the immune serum in anti-bodies.

Do not these facts, then, necessitate somewhat of a rearrangement of the preceding assumptions regarding passive immunity production in infected individuals, and possibly explain to some extent, at least, some of our shortcomings in serological treatment?

For example, let us consider for a moment the employment of vaccines, other than early, in acute generalized infections or in acute infections in which there is abundant opportunity for the free admittance of auto-inoculations from the infected area. It seems to me that in the light of the preceding facts their use in

such instances, besides having proven clinically unsatisfactory in the hands of most observers, is theoretically illogical. For, a priori, such practice, in order to be logical requires the assumption that the infected organism is responding imperfectly to its auto-immunizing process by the production of insufficient amboceptors to meet the emergency. It requires, further, that the other substance necessary to harmonious interaction, viz., the complement, is present in sufficient concentration.

By the experiments above adduced, however, it is readily seen that neither assumption is true.

Vaccines, on the other hand, when employed early in the course of acute generalized infections, would seem to have a more reasonable basis. Clinically, at least, the employment of inoculations under such circumstances has seemed to be more generally productive of favorable results.

That this should be the case might be expected from laboratory findings. For in just such cases a determination of the complement and amboceptor indices supplies the key to the situation.

The complement index of a serum may be determined by finding the smallest amount which will supply sufficient complement to cause complete hemolysis of a fixed volume of corpuscles in the presence of two hemolytic amboceptor units in a given time as compared with the amount of normal pool serum required to produce the same result. The amount of normal serum which is required under such circumstances divided by the amount of the serum under investigation required may be called its complement index. Thus:

COMPLEMENT INDEX

(1) . 01 C. C. normal pool serum + 1 C. C. of 1% erythrocytes + 2 amboceptor units =

(2) . 02 C. C. normal pool serum + 1 C. C. of 1% erythrocytes + 2 amboceptor units =

(3) . 03 C. C. normal pool serum + 1 C. C. corpuscles + 2 hemolytic units =

(4) . 04 C. C. normal pool serum + 1 C. C. corpuscles + 2 amboceptor units =

(5) . 05 C. C. normal pool serum + 1 C. C. corpuscles + 2 amboceptor units =

(6) . 01 C. C. serum to be tested + 1 C. C. corpuscles + 2 amboceptor units =

(7) . 02 C. C. serum to be tested + 1 C. C. corpuscles + 2 amboceptor units =

(8) . 03 C. C. serum to be tested + 1 C. C. corpuscles + 2 amboceptor units =

(9) . 04 C. C. serum to be tested + 1 C. C. corpuscles + 2 amboceptor units =

(10) . 05 C. C. serum to be tested + 1 C. C. corpuscles + 2 amboceptor units =

(11) . 08 C. C. serum to be tested + 1 C. C. corpuscles + 2 amboceptor units =

(12) . 1 C. C. serum to be tested + 1 C. C. corpuscles + 2 amboceptor units =

(13) . 15 C. C. serum to be tested + 1 C. C. corpuscles + 2 amboceptor units =

(14) .2 C. C. serum to be tested + 1 C. C. corpuscles + 2 amboceptor units =

(The erythrocytes and ambocepter are incubated one hour, the complement added and the results read after ten minutes.)

The former divided by the latter equals complement index.

The method of determining the amboceptor index is an indirect one, and one into which two standards enter for consideration. These are in the first place the amount of amboceptors present in the serum of an average normal person in which there is a normal complement content associated with an amount of amboceptors sufficient to protect the individual against a certain limited amount of contagium, and, secondly, the serum of an immune person in which the amboceptor content is high by virtue of recovery from an attack of the disease.

The first of these standards is relatively unimportant, since the resistance of such serums may be readily determined by the complement titre, there being almost always sufficient amboceptors to balance this.

The second standard is the important

one, since it is only when a serum contains an amount of amboceptor which approximates the content of an immune serum that it can be fully relied upon to successfully combat large and repeated doses of contagium.

The amboceptor index of a serum, then, is the measure of the amboceptor content as compared with that of pool serum of individuals recovered from the infection in question. The only method we have been able to devise, however, as we have said, is an indirect one. In it the amount of amboceptor present is gauged by the amount of complement it will fix.

It is determined as follows:

AMBOCEPTOR INDEX

Ascertain how much complement is necessary to be added to a definite amount of inactive infective serum plus an excessive volume of a suspension of organisms, so that after the mixture has been incubated for one hour all the amboceptors shall be fixed and yet leave sufficient complement free to combine with the hemolytic system.

Also ascertain how much inactive serum from an individual immune to the given infection by virtue of recent recovery from the disease must be added to a similar combination in order to produce a like effect.

The latter divided by the former gives a figure which may be considered as the denominator of a fraction whose numerator is 1, the fraction thus obtained representing the measure of the amboceptor relationship of the compared sera. Thus:

(1) . 03 C. C. inactive infective serum + . 2 C. C. normal pool serum + 500,000,000 organisms + incubation for one hour + 1 C. C. of 1% corpuscles + 2 amboceptor units + incubation for one hour =

(2) . 03 C. C. inactive infective serum + . 3 C. C. normal pool serum + 500, 000, 000 organisms + incubation for one hour + 1 C. C. of 1% corpuscles + 2 amboceptor units + plus incubation for one hour =

(3) . 03 C. C. inactive infective serum + . 5 C. C. normal pool serum + 500,000,000 organisms + incubation for one hour + 1 C. C. of 1% corpuscles + 2 amboceptor units + incubation for one hour =

(4) . 03 C. C. inactive infective serum + . 7 C. C. normal pool serum + 500,000,000 organisms + incubation for one hour + 1 C. C. of 1% corpuscles + 2 amboceptor units + incubation for one hour =

(5) . 03 C. C. inactive infective serum + 1 C. C. normal serum + organisms + incubation + corpuscles + 2 amboceptor units + incubation =

(6) . 03 C. C. inactive infective serum + 1 . 5 C. C. normal serum + organisms + corpuscles + 2 amboceptor units + incubation =

(7) . 03 C. C. inactive infective serum + 2 C. C. normal serum + organisms + incubation + corpuscles + 2 amboceptor units + incubation =

(8) . 03 C. C. inactive post-infective serum + . 2 C.C. normal serum + organisms + incubation + corpuscles + 2 amboceptor units + incubation=

(9) . 03 C. C. inactive post-infective serum + . 3 C. C. normal serum + organisms +incubation + corpuscles + 2 amboceptor units + incubation =

(10) . 03 C. C. inactive post-infective serum + . 7 C.C. normal serum + organisms + incubation + corpuscles + 2 amboceptor units + incubation =

(11) . 03 C. C. inactive post-infective serum + 1 C. C. normal serum + organisms + incubation + corpuscles + 2 amboceptor units + incubation =

(12) . 03 C. C. inactive post-infective serum + 1 . 5 C. C. normal serum + organisms + incubation + corpuscles + 2 amboceptor units + incubation =

(13) .03 C. C. inactive post-infective serum + 2 C. C. normal serum + organisms + incubation + corpuscles + 2 amboceptor units + incubation =

Measurements of complement taken in the above manner disclose the fact that early in the course of a bacterial infection the complement index is low, while the amboceptor content may be more or less than that of normal serum but is always less than that of an immune serum. This is not true later in the course of the disease, since at this time it is found that

although the complement index may still be low, the amboceptor content approximates the immune standard. Bacterial inoculations, we know, increase the content of amboceptor, and it is a recognized fact that a small amount of complement in the presence of a very large amount of amboceptor may accomplish the same results as a very much larger amount of complement associated with a smaller amount of amboceptor. It may be due to this fact or to the fact that the injection produces a sufficient increase of amboceptor to tide the individual over until his complement producing mechanism has risen to the occasion that results are obtained from bacterial injections in this class of cases.

Longscope, in an investigation of the complement-content of the infectious diseases in general, has found that the complement is consistently low and is diminished still more when septic complications intervene.

Perkins, Gay, and Thompson found a diminished bacteriolytic complement content in variola.

Loewenstein notes a decrease in human diabetes, induced diabetes in animals and in infections; Sweet in experimental diabetes.

Szekely and Szana noted diminished complement in the course of anthrax of man and animals.

Further, a lowered complement content is demonstrable in conditions we all recognize under the caption of "lowered vitality."

Longscope and Wright noted a lessened content in individuals suffering from anxiety or fatigue.

In an examination of the complement content of persons suffering from simple constipation unattended by symptoms such as might be termed clinically as severe autointoxication and interpreted from the laboratory standpoint as infections with the colon bacillus, I have found almost uniformly a lowered complement index.

Likewise in three out of ten pregnant women, apparently healthy, the complement content was far lower than could be reasonably attributed to the normal variation, and one of these patients presenting a lowered complement index developed an attack of facial erysipelas while under observation.

In a similar manner I have demonstrated a low complement content in lobar and broncho-pneumonia, in tonsillitis, in septic conditions of various kinds, in alcoholism and in gonorrheal arthritis.

Since these relationships exist, it would seem that a great many clinical facts long recognized may possibly be explained along these lines. It is common knowledge, for example, that individuals enervated by fatigue, nervous strain, or dissipation are prone to the development of infections. That this should be the case might rather be expected from the lowered complement content of their serum.

Then, too, it is generally recognized that pregnant and puerperal women are more susceptible to infection than when not enceinte. The complement index of some pregnant women, at least, is abnormally low, and the fact that one of the women whose index was taken and found to be low developed an infection within a few days of this time, as well as the fact that others have noted a lowered complement content to be followed by an infective process, would seem to add importance to the supposition that a lowered complement index is causally related to the development of infections.

Therapeutically, too, it is not improbable that a recognition of the serum's poverty in complement under some circumstances may indicate other measures of treatment than those already at our disposal.

Personally, I cannot but be impressed with the importance of the complement

index and its relationship to the amount of amboceptor present, and I believe that whereas in the past most of our attention has been directed to measures designed to raise the content of amboceptors, in the future due consideration will be given to those means which may be expected to increase the amount of complement present, or, at least, to enhance the value of what complement is present.

J. C. Torrey, as the result of research concerning bacteriolysis of the gonococcus and the meningococcus with normal and specific immune sera, concludes that the low bactericidal action of certain immune serums is due to fluctuations in the complement content and not to a poverty in immune bodies.

F. P. Gay and J. B. Ayer, after measuring the alexic activity of normal human serum, venture the statement that "the concensus of opinion attributes the variation of resistance in normal and diseased individuals, at least so far as such resistance is evidenced in the blood serum, to fluctuations in that factor which is the essential destructive agent for invading micro-organisms, viz., the alexin." Incidentally they noted that in the presence of an attack of influenza the complement content was low, and that another individual whose complement they found low while under observation developed a series of boils. The conclusion they draw, however, is that the infection produces the low complement content.

In view of the observations above mentioned, however, is it presumptuous to reverse the order and suppose that the complement content permits the infection to occur rather than that it is the result of the infection? From laboratory experimentation to clinical demonstration should, if our observations are true, not be a long step. It has seemed to me that with the above relationships existing there must be some influence attributable to the amount of complement available. In an effort, therefore, to determine from both clinical and laboratory standpoints what the results of attempts to passively raise the complement content in acute infections would be a few cases have already received injections of fresh serum of high complement content in repeated doses of considerable size, and a large amount of further experimentation along this line is contemplated.

As yet, too small a number of cases have been treated to merit reporting. It may be said at this juncture, however, that the results thus far obtained have seemed to corroborate the truth of our hypotheses, and we hope to be able to make a further report in a future communication.

Hiss and Zinsser, recognizing the importance of cellular exudation in infective processes, and believing that in the disintegration of the leucocytes some substance or substances were liberated which produced a favorable influence on the infection, have tried the therapeutic injections of leucocytic extracts with favorable curative results. In explanation of the modus operandi they suggest the possible influence of the complement contained in the extract.

It may be that a greater measure of success in treating acute infections will be possible when means have been adduced whereby the proper quantitative relationship of complement to amboceptor may be produced.

In conclusion, I desire to thank the members of the resident and visiting staffs of St. Mary's Hospital for their many kindnesses in providing me with material to carry on these investigations, and also the Research Department of Parke, Davis & Company for the use of their library.

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GOLDEN RULES OF PEDIATRICS

ZAHORSKY

Examine the throat in every case of an acute fever. Never forget this golden rule.

It is a golden rule, it should be remembered, to give as high a percentage of protein as is possible. Do not keep the baby on a milk mixture which contains a very low percentage of protein for too long a time. Remember that infants who can digest pure undiluted cow's milk really grow most rapidly.

Do not forget that an acute fever may be caused by acute adenoiditis following follicular tonsillitis, but it may occur primarily. A stuffiness of the nose and a discharge on the posterior pharyngeal wall may be observed. In all obscure fevers of childhood this site of infection should be borne in mind.

Do not forget that habitual lying on one side causes asymmetry of the skull in infants. Persistent lying on the back of the head often causes flatness of the occipital region.

Deformities of the thorax are most commonly caused by rickets and pulmonary disease. Soft bones and persistent stenosis of the nostrils are sufficient to cause flaring of the lower ribs.

The Journal of the Michigan State Medical Society
Published under direction of the Council.

PUBLICATION COMMITTEE:
A. P. BIDDLE, Chairman, Detroit.
W. J. KAY, Lapeer.
R. H. SPENCER, Grand Rapids.
A. M. HUME, Owosso.
WILFRID HAUGHEY, Battle Creek.
(Ex officio)

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Wilfrid Haughey, A. M., M. D., Editor, 24 West Main Street, Battle Creek, Michigan. The Society does not hold itself responsible for opinions expressed in original papers, discussions or communications.

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JULY

EDITORIAL

THE RESULT

THE collection of dues in a medical organization—or any other organization—is a task of no small difficulties. The man upon whom the work devolves likes it no more than the member who is appealed to to pay up.

In the past the Michigan State Medical Society has collected dues as fast as possible, but has been forced to keep the books open, and carry many of its delinquent members until December 31 of the year for which dues were being collected.

Last year was no exception. We labored all during the year, and on December 31, 1910, had received 1910 dues for 1942 members. We were compelled to remove 188 from the list on that date, for nonpayment of dues.

In September last, at Bay City, the House of Delegates passed the resolution which has been heading our editorial page in bold-face type for several months. Up to and including May 31 this year we had received 1911 dues for 1966 members, a gain of 24. On the same date we removed from the list 217, an increase of 29. (Several of these have been returned since June 1st.)

The obvious deduction is that, in the collection of dues in a medical society, prompt and businesslike methods win. We have made a net gain in membership in five months over the number secured in twelve months last year.

THE 46th ANNUAL MEETING

THE program for the Annual Meeting to be held in Detroit, September 27, 28, is nearly complete. The Medical and Surgical Section Programs are completely filled, but a few places are still open in the Gynecological Section.

All authors expecting to read papers are requested to send the titles of their papers, with short abstracts, not to exceed one hundred words, to the Secretary of the respective section, not later than July 20. This is to give the Section Secretaries time to prepare the program for publication.

The County Secretaries Association will meet September 26. All County Secretaries belong to this Association. Presidents of County Societies, and other officers, Councilors and officers of the State Society, are invited to be present and take part in the program and discussions. The object of this Association is to study and determine the best methods of conducting the affairs of the County Societies. The program is under the charge of Dr. W. C. Garvin, Secretary, Millington, Michigan.

Hotel rates to apply during the 46th Annual Meeting of the Michigan State Medical Society, Detroit, Sept. 27, 28, 1911:

Ponchartrain: European—	
without bath	$2 00—$2 50
with bath	3 00—5 00
Cadillac: European	2 00 and up.
American	3 50 and up.
Ste. Claire: American—	
without bath	2 50—3 00
with bath	3 50—4 00
Griswold: European	1 00—4 00
Wayne: European	1 00—3 00
Tuller: European	1 50 and up.

THE HEALTH MASTER

MR. Samuel Hopkins Adams, the man who wrote the articles, "The Great American Fraud," in Collier's, a few years ago, has a continued story now appearing in the *Delineator*,* "The Health Master:"—experiences of a young man as "Chinese doctor" in a private family.

Under peculiar circumstances Dr. Strong met a Mr. Clyde, and was engaged to look after the health of Mr. Clyde's family. The way Dr. Strong studies the children of the family, looking after their play, their habits, their health and nutrition; the way he looks after their home surroundings, their school surroundings, the surroundings of the farm which produces their milk, etc., is entertaining and educational.

The story is a strong advocate of medical inspection of schools, of proper enforcement of health laws and regulation in the community and in the home.

Mr. Adams has placed his instructive story in a magazine which is read by the mothers of the land, and if we hear mothers asking about adenoids, post-diphtheritic paralysis, measles, whooping-cough, unclean cow stables, flies, insanitary sewers, unventilated schoolrooms, and the like, we must attribute part, at least, of the good work, to the able pen of one of the ablest of literary allies of modern scientific and preventive medicine.

The suggestion is often made that the public be educated on health matters by articles in the lay press. When we prepare these articles let us make them entertaining as well as instructive.

* The *Delineator*, May, June, July, 1911.

A BLACK EYE

A FEW times in its history the Supreme Court of the United States has been criticized for its decisions. This criticism seems to amount to lese majeste—witness the clamor of a few months ago when Mr. Roosevelt criticized the Supreme Court and took exception to one of its decisions.

A few years ago, as the result of years of labor, we secured the passage of the "Pure Food and Drugs Act," one passage of which reads as follows:

> "The term 'misbranded' . . . shall apply to all drugs . . . the package or label of which shall bear any statement . . . *which shall be false or misleading in any particular.*"

—(Italics ours.—ED.)

Some months ago A. O. Johnson, a mail order cancer-cure quack of Kansas City, Mo., was taken before the courts for printing on the labels of his medicine bottles "misleading statements" regarding their curative effect. When the case came to court Johnson's lawyers held that the Food and Drugs Act was not intended to apply to claims relative to the curative effects of the medicine, but only claims about the composition. The lower court upheld this contention, and the case was appealed.

During the hearing before the U. S. Supreme Court, Solicitor General Lehmann* maintained that, in drawing up the Food and Drugs Act, Congress recognized that it was just as important to deal with the curative effects of medicines as with their ingredients. Justice Lurton interrupted the Solicitor-General by asking whether such an interpretation of the law as the government desires "would not break up the patent medicine business." Mr. Lehmann replied: "It probably would, and I know of nothing within the scope of Congress that would be more beneficial."

The Supreme Court has confirmed the decision of the Lower Court,† Justices Hughes, Harlan and Day dissenting. No patent medicine manufacturer now need fear this law. He may make what-

*Journal A. M. A., April 22, 1911, Page 1203.

†See Page 357, and Jour. A. M. A., June 17, p. 1832.

ever extravagant claims he wishes in regard to the curative properties, providing he does not lie regarding the composition of his remedy. Lies regarding the curative properties are not "false or misleading in any particular."

This law was prepared and enacted by the people, not those trained to read two or more meanings where only one was intended, and this decision reads into the law something never dreamt of by its promoters. It was intended to benefit and protect the people from fraud; it is interpreted to benefit and protect from punishment the manufacturer of swindling, deceiving frauds in the shape of mislabeled patent medicine "sure cures."

THE HEALTH OFFICER OF BAY CITY AGAIN

THE public news recently contained a paragraph copied on page 358. As noted a couple of months ago, the mayor of Bay City asked the Bay County Medical Society to nominate three men from whom he would select the health officer. Dr. Goodwin was selected.

Late in May Dr. Goodwin began investigating sanitary matters critically. So closely did he inspect the ice-cream factories and milk depots that a protest was made by the interested men, to the mayor.

Dr. Goodwin found that in scarcely a single instance was the ice-cream prepared in a sanitary manner. He found that frequently, even when arriving in the city in suitable condition as regards wholesomeness, milk becomes contaminated before being delivered to private homes.

This is only one activity of the new health officer, who is using his bacteriological knowledge and microscope in season and out. Fortunately, the mayor announces that he will stand back of his health officer to any extent necessary in this work. As we stated before, we expect many things from Bay City, and indications are that we will not be disappointed.

THE YOUNG MEDICAL GRADUATE AND THE COUNTY SOCIETY

SHOULD the young medical graduate join a County Medical Society, or should he wait a few years? What benefit will the County Medical Society be to him, if any?

As a student he has spent years absorbing what he could of the plethora of old and new facts placed before him. He has been drilled in laboratory work; he has been quizzed on text-book and lecture work; he has written examination after examination; he has been taken around the wards and shown patients; but have his powers of clear thinking, of deduction, of expression, and confidence, been sufficiently developed?

If he finds himself deficient in any matter; if he feels the need of his old professor to confirm his diagnosis; if he feels the need of a strong man to share some of his responsibility; the young man will find all these things in the County Medical Society. He will find friends to whom he may go in need and in doubt; he will find a forum for discussion of his troubling problems; he will find in the Society the experience which must needs go with education and theory to make the successful physician.

The young man's training may have been all that is desirable. He may have been trained in English, and in expressing himself; he may be an accomplished diagnostician; even then the County Medical Society offers him decided advantages. Of what value to humanity in general, or the medical profession in particular for the young (or old) doctor

to be a master diagnostician, a master surgeon, or a master physician; of what value for a man to be able to make accurate observations and correct deductions, if he have not the ability, the confidence in himself, the confidence of his brother practitioners, or the opportunity, sufficient to place these special endowments where they will benefit more than his small coterie of friends and patrons?

The County Medical Society is designed and conducted to help its members in the manner suggested, but it does more. No one will contend that a man's education is completed when he leaves college—it is just begun. The doctor, above all others, must constantly labor to improve himself. Medical science is not founded upon precedent, but is a living, growing thing. The college cannot hope to give its graduates even all that is known at the date of their graduation. College training must be supplemented by other things, —by study and post-graduate work.

Here is the field of the County Medical Society.

* * * * *

It is a function of the County Medical Society to develop its members, to encourage them to prepare and read papers, and to help them make their papers better. These Societies, meeting weekly, monthly, or quarterly, have a paper by some noted surgeon, or internist, or specialist from a larger and more favored medical center. They also have papers prepared by some of their own members, of value to all, but of decided value to the essayists.

Any Society that depends entirely upon outside talent for its programs is in the position of the student, looking up to the professor for confirmation or correction. Its members will in time lose their individuality. They are missing an opportunity to add their quota to medical advance.

By joining the County Medical Society the young graduate allies himself with his confreres, his associates in a work of love and altruism; he lends his later knowledge of diagnostic and laboratory methods to his co-workers in exchange for their larger experience and greater understanding of the problems all about him.

He should early prepare and read a paper before his County Society, for the benefit of the friendly criticism he will receive. We know the novice says, "Let me have more time," "Let me see how others do, and I will do my part." The writer felt the same way not so many years ago, but the program committee insisted upon his reading a paper at the second meeting of the County Society after he graduated.

We believe this is the better way—it is none too early to begin this phase of a medical man's work. The longer he waits, the more papers he hears, the more timid he gets, with this result: a potentially active member becomes a passive one, a follower rather than a leader, and, who knows, a backslider, entirely dropping out of the Society.

By all means, young man, join the Society, join as soon as possible, then read a paper; it may be ever so short, and ever so modest, but it has taught you something of inestimable value: your own ability, as well as your present limitations.

ANTIVIVISECTION

A SERIES of colored cartoons showing the absurdity of the antivivisection movement, has been appearing in *Puck*.

The first of these, "Vivisection," appeared February 22, 1911. It represents a scientist operating upon an anesthetized rabbit, the anesthetist being seated and

showing care and caution by the expression on his face. The scientist has his knife poised in air, looking at expensively dressed women and men, "Sentimentalists," who exclaim, "For mercy's sake, stop!" Opposite are the lame, the halt, the blind, "The Sufferers," exclaiming, "For humanity's sake, go on!"

Number 2, March 22, 1911, represents a burning building, with firemen playing a stream of water on the fire, and others holding a "Vivisection Research Life Net." Women with pup dogs in their arms, and men, are pulling at the firemen supporting the life net, and those directing the stream of water, while one man with the axe "Legislation" is hacking at the fire hose. Beneath are the words, "Away with that life net."

The third cartoon, April 5, represents a shipwreck, with waves washing the deck. Sailors stand with drawn revolvers holding back men, women, and children, while the pet dogs are being safely stored away in the life boat. The subscription reads, "'Dogs First!' 'Women and children' would cease to be shipwreck etiquette if antivivisectionists had their way."

Number four appeared June 7th, and represents a gladiatorial forum. Prostrate on his back is "The Sick." With one foot on his chest and sword drawn stands "Death." Back of the rail are men and women, each with a pet animal, a diminutive dog, a rabbit, a cat, or a monkey, some with old maid's curls, and others with low retreating foreheads, narrow eyes and prominent jaws,—every one with thumbs turned down. Spread over the rail is a mantle "Antivivisection," showing in its center the lamp of "Progress" with light burning, but a hand with a candle extinguisher poised above it. The cartoon is labeled "Thumbs Down."

Let us hope that with the Prince of Ridicule turned against them the antivivisectionists will soon cease their labors.

TO AMEND PURE FOOD AND DRUGS ACT

To amend Pure Food and Drugs Act, President Taft, on June 21, sent a special message to Congress, pointing out the immediate necessity of amending the Pure Food and Drugs Act in such a way that all misleading statements in regard to the therapeutic or curative properties of the preparation shall be absolutely prohibited. He urges that if this is not done the country will soon be over-run by vile frauds. Representative Sherley of Kentucky has introduced a bill bearing on the subject.

IN MEMORIAM

Dr. James B. Rice, of Flint, formerly a member of the Michigan State Medical Society, a graduate of the Detroit College of Medicine 1901, died May 31.

Per Herbert, of Iron Mountain, a member of the Michigan State Medical Society and the American Medical Association, and a graduate of Bellevue Hospital Medical College 1898, died recently.

Dr. T. H. McDonald, of Petersburg, a graduate of the University of Michigan, 1879, and member of the Monroe County Medical Society, Michigan State Medical Society and the American Medical Association, died June 20, aged fifty-seven.

Dr. Theodore E. Sands, of Battle Creek, a graduate of Starling Medical College, 1886, and member of the Calhoun County Medical Society, the Michigan State Medical Society, and American Medical Association, died June 22 at Detroit from mastoiditis with internal rupture, aged forty-eight

COUNTY SOCIETY NEWS

CHARLEVOIX

May 26th Dr. B. H. McMullen, Councilor for the Ninth District, and the State Secretary, Dr. Wilfrid Haughey, met with seven of the doctors of Charlevoix County, and reorganized the Charlevoix County Medical Society. Dr. R. B. Armstrong was elected President, and Dr. A. M. Wilkinson Secretary. All those in attendance were enthusiastic about the organization, and decided to hold the lists open for a short time in order to get as many as possible to join with them. They are already planning active work along the line of a minimum rate bill, and other matters more of a public health nature.

EATON

Resolutions of sympathy and respect on the death of Dr. G. B. Allen, of Charlotte Mich.

Whereas death having entered our ranks and removed from our midst our esteemed brother, Doctor Giles B. Allen, we feel that in his death the profession has lost a sincere and earnest practitioner and his family an affectionate and loving husband and father; therefore be it

Resolved, That we tender to the family and friends of our deceased brother our sincere sympathy, and

Resolved, That a copy of these resolutions be sent to the wife and children of the deceased; also that they be spread on the minutes of this meeting, and further, that a copy be sent to the JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY for publication.

Passed at a meeting of Eaton County Medical Society at Charlotte, April 27, 1911.

C. B. WASSON, *Pres.*,
A. H. BURLESON, *Sec.*

GENESEE

A special meeting of Genesee County Medical Society was held May 30th, at Genesee Club, Flint, Michigan, for the purpose of adopting the revised amendments.

Dr. H. Cook gave an interesting talk on "Urethral and Prostatic Inflammations." The subject was thoroughly discussed. Two new members were received. Dutch Lunch was served.

C. P. CLARK, *Secy.*

GRAND TRAVERSE

The regular monthly meeting of the Grand Traverse-Leelanaw County Medical Society was held in Dr. Holliday's office. Ten members were present. Minutes of last meeting were read and approved. A letter was read from the State Secretary regarding the dropped members.

It was voted to have a committee appointed to confer with the woman's club in order to secure their aid in procuring a hospital.

It was decided to hold the annual picnic July 14 at Dr. Fralick's cottage on Glen Lake.

Dr. Minor read a paper entitled, "Infantile Spinal Paralysis." A general discussion followed. Dr. Wells read a paper entitled "Ehrlich's 606." This paper was followed by a general discussion, after which the Society adjourned.

R. E. WELLS, *Secy.*

GRATIOT

Dr. A. L. Seeley, Councilor for the Eighth District, and the State Secretary, Dr. Wilfrid Haughey, met in Alma with about nine of the doctors, members of the Gratiot County Medical Society before it disbanded last winter. The Gratiot County Medical Society was reorganized, with Dr. C. B. Gardner, of Alma, President, and Dr. W. E. Barstow, of St. Louis, Secretary. All those attending the meeting were sanguine of a good live Society, the same as Gratiot County has supported in past years. Plans are under consideration looking toward the Tuscola plan of caring for the county poor.

HURON

The regular quarterly meeting of the Huron County Medical Society was held in Bad Axe, May 22, 1911, in the afternoon. The President, Dr. F. E. Luton, of Kilmanagh, occupied the chair. Dr. W. J. Kay, of Lapeer, Councilor of the Fifth District, read an interesting paper on "Optimism in Medicine," Dr. T. S. Conover, of Flint, read an instructive paper on "Diphtheria," and Dr. A. L. Seeley, of Mayville, Councilor of the Eighth District, favored the members with a talk on "How the Tuscola County Medical Society Takes Care of the County's Poor." All papers were thoroughly discussed. A com-

mittee of three was appointed to ascertain the feasibility of doing likewise in Huron County. A supper was given to the visiting doctors, at which Dr. Freeland acted as toastmaster.

D. CONBOY, *Secretary.*

MUSKEGON-OCEANA

Regular meeting of the Muskegon-Oceana County Medical Society was held with Drs. Campbell and Quick, at the Occidental Hotel, Friday, April 28, 1911.

Meeting called to order by the President at 8 P. M. following 6 o'clock banquet.

Members present: Drs. G. S. Williams, L. I. Powers, F. W. Garber, J. F. Denslow, B. F. Black, A. A. Smith, C. P. Donelson, F. B. Marshall, W. E. Dockry, W. P. Gamber, I. M. J. Hotvedt, L. N. Eames, J. T. Cramer, W. A. Campbell, and P. A. Quick. Dr. Bussard as visitor.

Communication from Dr. Harison read. Dr. Dockry moved the letter be placed on file. Seconded and carried.

Paper by Dr. Campbell, "Sepsis Following Induced Abortion." The discussion was opened by Dr. P. A. Quick and followed by Drs. L. N. Eames, F. B. Marshall, C. P. Donelson, W. P. Gamber, B. F. Black, W. E. Dockry, J. T. Cramer, G. S. Williams, A. A. Smith, and W. A. Campbell closed the discussion.

Meeting adjourned.

J. T. CRAMER, *Secretary pro tem.*

ONTONAGON

At a regular meeting of the Ontonagon County Medical Society held on May 25, Dr. C. L. Rumph resigned the office of President, and Dr. F. J. Larned, of Greenland, was elected President for the remainder of the term.

Dr. C. L. Rumph has moved to Green Bay, Wis.

It was moved, seconded and carried, That we favor the plan to make membership in the American Medical Association a requirement of every member of the County and State Society, and that none be admitted into the American Medical Association except members of the various State Societies.

J. S. NITTERAUER, *Secretary.*

SCHOOLCRAFT

At a special meeting of the Schoolcraft County Medical Society, held May 18, the following resolutions were adopted:

Whereas, Death has removed from our Society a brother practitioner, a faithful and upright friend and colleague, Dr. Samuel S. Hackwell, of Blaney:

Therefore, *Resolved*, that in the untimely death of Dr. Hackwell our Society sustains the loss of an honored and beloved member, one who always inspired by his cheerfulness and was most helpful in his relations not only with his fellow practitioners but with all who had the privilege of knowing him.

Resolved, That his pleasing disposition, his earnest and consistent friendships and his many manly virtues be held in grateful remembrance.

Resolved, That this Society, feeling its own loss, most sincerely extends its sympathy to the widow and friends on the occasion of their deep sorrow.

Resolved, That a copy of these resolutions be spread upon our records, a copy sent to Mrs. Hackwell, and a copy furnished to the JOURNAL for publication therein.

FRANK RAINIE,
D. W. ROOS,
G. M. LIVINGSTON,
Committee of Schoolcraft County Medical Society.

G. M. LIVINGSTON, *Secretary.*

WAYNE

At the last General Meeting of the Wayne County Medical Society the nominations for officers for the year 1911 to 1912, which at the same time was equivalent to an election, resulted as follows: President, Dr. H. O. Walker, Vice-president, B. R. Schenck, Secretary-treasurer, R. C. Jamieson.

The paper of the evening on

The Relationship Between Dreams and Psycho-Neurological Symptoms

was read by Ernest Jones, of Toronto.

Abstract: The main thesis of the paper was that there exists a far-reaching resemblance between the psychological characteristics and mechanism of dreams and psycho-neurotic symptoms, and that this fact has important bearings in regard to both psycho-pathology and therapeutics. The resemblances were classified under the four following headings:

General Characteristics. Both manifestations appear to be meaningless and unreasonable; both are readily forgotten and tend to get falsified in later recollection of them.

Clinical Relations. Many symptoms actually date from a given dream. Certain symptoms greatly resemble dreams, the so-called hysterical dream states; often the content of a symptom—for instance, a phobia—appears directly in a dream. The underlying mental material from which

dreams and symptoms are derived is often identical.

Structure. Both dreams and neurotic symptoms are compromise-formations, being formed as the result of an interaction between two opposing sets of forces, viz., certain buried mental processes that are unacceptable to the conscious personality, and, on the other hand, the social and ethical inhibitions that act as a censor in keeping these processes from consciousness. When the two manifestations are unravelled by means of psycho-analysis, it is found that the causative mental processes, which is called the latent content, are always entirely logical and full of meaning. They have, however, become distorted through the action of the censor. The mechanisms by means of which this distortion is brought about (condensation, displacement, reversal, etc.) are almost identical in the cases of both dreams and symptoms.

Latent Content. In both cases this is unconscious, that is to say, the mental processes are unknown to the conscious personality, it is always highly significant in its nature, it always takes its root in early childhood memories, and it is always of a sexual nature.

The analysis of dreams furnishes the best method for the study of the unconscious conflicts which play so large a part in both the neuroses and the psychoses. It thus enables one to understand the individual psycho-genesis of a given cause, giving a correspondingly greater power of dealing with the causative factors. The actual dream analysis is of itself of great therapeutic value because it fuses the opposing sets of forces, the conflict between which is the main cause of the neurosis.

The paper was discussed by Drs. E. A. Christian, of Pontiac, Albert M. Barrett, of Ann Arbor, David Inglis, Emil Amberg, Chas. W. Hitchcock, and L. E. Emerson, Ph. D., of Ann Arbor.

The following new members were admitted: Wm. H. Price, O. T. Toepel, Edward Bawl, R. Y. Young. As associate member: A. P. Chesterfield, D. D. S.

For gifts received, a vote of thanks was extended to the following members: Dr. L. E. Maire, for Biography of Ephriam McDowell, M. D.; Dr. Cruickchank, for unbound files of British Medical Journal; Drs. Connor, for a picture of Leartus Connor, Dr. F. C. Kidner, for Reprints; Dr. Chas. Hitchcock, for unbound files of Journal of Nervous and Mental Diseases and Journal of Neurology and Psychiatry; Dr. Leartus Connor, for 457 more books; Dr. W. H. Morley, for 51 more books; Dr. Thaddeus Walker, for 3 steins.

The revised Owen Bill was approved by the Society, and returned to the legislative committee for action.

The last meeting of the Wayne County Medical Society for the year 1910 to 1911 was held at the Wayne County Medical Building on Monday, May 29, 1911. No scientific paper was read. The casting of ballots for officers of the Society for the coming year was as follows: President, H. O. Walker; Vice-president, B. R. Schenck; Secretary-treasurer, R. C. Jamieson.

The Reports of the Library, House and Finance Committees were accepted (a copy of these will appear below).

The new members admitted into the Society were as follows: L. J. Sebille, E. J. O'Brien, F. E. Pilcher, L. M. Lawton, R. J. McClellan, H. J. Maus, G. V. Oill, Geo. G. Harris, H. B. Williams, J. H. Neary, F. J. McDonnell, Leo. Pulford.

The following gifts were received and a vote of thanks was offered the donors:

From Dr. Herman Kiefer, 351 bound volumes, 1 bookcase and 3 pictures; from Dr. J. H. Carstens, 61 bound volumes and unbound files; from Dr. R. G. Owen, 1 bound volume.

Drs. Angus McLean and H. O. Walker have each subscribed $1,000 towards the building of the Auditorium.

For the entertainment of the evening, Mr. Leonard Carley and Dr. W. A. Spitzley sang, and Dr. C. R. Davis played a violin solo. Mr. Frederick Morse was the accompanist.

REPORT OF HOUSE COMMITTEE

Receipts

From Cigars and Liquors

October	$78.55
November	64.95
December	68.70
January	59.75
February	61.52
March	73.93
April	80.70
May to date	72.95
Total	$561.05

From Other Sources

Dr. Maire Dinner	$12.00
Polyclinic Lunch	6.65
Trustees for Smoker	80.68
Ex-Pres. for Reception	130.00
Mrs. Moore for Board	5.25

Old Iron	5.25
From Dr. Shamberg's Dinner	54.00
Kitty	24.77
Total	$318.60
Sum total of receipts	879.65

Disbursements

Laundry	$50.62
Ice	18.50
Coupon books, visitors and gift book and Library supplies	42.90
House supplies	5.85
House cleaned	11.50
Freight	.45
Rent for silver	.80
Sponges in cigar case	1.00
Framing of pictures and house rules	7.85
Varnishing linoleum	6.00
Whiskey decanters	2.50
Highball, cocktail, water and ice tea glasses	16.81
Beer mugs	6.33
Cigars and liquors	355.65
Shamberg Dinner	35.00
Ex. Pres. Reception	110.81
Smoker	80.68
Balance on hand in Bank	126.40
Sum total of disbursements	$879.65
Due on cigars and beer	4.15
Due from Dr. Shamberg Dinner	14.00
	$18.15

REPORT OF THE FINANCE COMMITTEE

Receipts

June 17, 1910, to May 27, 1911

Subscriptions	$13,882.25
Rentals	652.50
Defence League	1233.81
Wayne Co. Medical Society	1000.00
Medical & Library Ass'n	382.70
Interest	.91
Sale of bath tub	25.00
Total Receipts	$17,177.17

Disbursements

Paid on building	$12,500.00
Interest and exchange	312.75
Collection expense	129.61
Furnishing acct	1473.11
Maintenance acct	1760.47
Library acct	943.43
Balance on hand	57.80
Total disbursements,	$17,177.17

REPORT OF THE LIBRARY COMMITTEE

Number of non-duplicate volumes	7,780
Duplicates accessoried and listed for exchange	2,705
Number of pamphlets and unbound reprints.....considerable, not yet counted or catalogued.	
Current journals coming to the library	78
Amount of special subscription to periodical fund	$165.00
Received from the sale of old paper	6.74
Total receipts	$171.74
Total expenditures for Journal subscription	101.57
Balance in subscription fund	70.17

The appropriation of $100 voted by the Board of Trustees in November last, to be expended for periodical subscriptions, has not been used.

Respectfully submitted,

B. R. SCHENCK,
G. L. CONNOR,
W. J. WILSON, JR.,
V. C. VAUGHAN,
R. W. OWEN,
H. N. TORREY,
H. A. SAFFORD,
Committee.

As can be seen from the reports of the different committees, especially the finance committee, the present year has been a banner year for the Wayne County Medical Society. A Medical Home, so long the cherished hope of many members, has been placed upon a sound footing. The progress made during the past year has far exceeded the expectations of the individual members, and more especially of those who were prime "boosters" in the undertaking of "A Medical Home."

There are at present six hundred members in our Society. Of these six hundred only about half have subscribed to the building fund. This half or these three hundred members have subscribed about $40,000, and have paid in $13,882,25, over a third of the whole subscribed sum. The members who have not yet subscribed ought to do so in the near future. Get a subscription blank from the librarian or one of the committee (F. B. Tibbals, A. D. Holmes, E. B. Smith, B. R. Shurly, H. W. Longyear) and do not wait until you are approached. The men comprising the subscription committee are all busy practitioners, and if in any way the members of the Society can lessen the amount of their work

they certainly ought to do so. The best possible way to do this is to pay your subscription promptly, if you are a subscriber, and if you are not a subscriber, to get a blank and subscribe at once.

At the meetings which during the past year have had larger attendances than ever before, the urgent need of an auditorium has been demonstrated over and over again. If each member will do his share, this building could be built and be ready for use in September.

Even with subscriptions from only half of the members the Society is to be congratulated upon the manner in which it has conducted, and in the short space of a year almost completely paid for its New Home." Now that this home is established, we as medical men ought to patronize it. Not only the subscribers, but all members as well as associate members, are welcome. During the summer months the cafe service and the library will be conducted in the same way as it has been during the winter months. Any person interested in medical affairs is welcome to the use of the library.

R. C. Andries, *Correspondent.*

NEWS

The Upper Peninsular Medical Society will hold its nineteenth Annual Meeting at Escanaba July 27-28, 1911. This Society comprises the County Societies of the Upper Peninsular, and meets each year under the auspices of one or more of the County Societies. The program is under preparation, and will be well worth attending. Delta County invites the Council and members of the State Society generally to attend this meeting.

President Taft has made the following additional appointments to the Medical Reserve Corps of the army to rank as first Lieutenants from May 12, 1911: Frederick H. Newberry, Detroit; Emil H. Webster, Sault Ste. Marie; Charles G. Jennings, Detroit; Hugo A. Freund, Detroit.

To rank from May 26th: James E. Mead, Detroit; Reynolds C. Mahaney, Owosso.

Dr. F.B. Marshall, of Muskegon, announces the limitation of his practice to Surgery and Surgical Diseases.

Doctor and Mrs. P. B. Hardy, of Tecumseh, are in Vienna this summer, having sailed on the 18th of June.

MORE VARIED HOSPITAL WORK FOR SENIOR MEDICS

A new system of sectional hospital work will be inaugurated in the Medical Department of the University of Michigan, with the next school year, whereby seniors will have opportunity for a wider experience in hospital work than they now have. Under the present arrangement, the seniors are divided into special staffs of a few men, each assisting the various departments in the hospital, such as the eye and ear, medical, surgical, and other departments. As the student usually assists in only one of these departments, he does not get so general a knowledge of the entire field of hospital work as he will under the new sectional system. The surgical staff alone will be retained as in the past.

According to the new plan, the senior class will be divided into six sections, and the school year will be divided into the same number of periods. Each section will do work in each one of the departments of the hospital during the school year, taking its turn in each department during one period of the year. It is planned in this way to give the student of the Medical Department a practical training in all branches of his profession before he is graduated.

The amount of recitation work by seniors will probably be cut down somewhat on account of the demands which the new hospital arrangement will make upon the students' time.

CAN LABEL DRUGS AS "SURE CURES"

Washington, May 29.—Medicine which is nothing but sweetened water or pills composed of colored mud, may be called "cures" and sold as such with impunity under the national pure food and drugs act, according to a decision rendered today by the United States supreme court in the case of Dr. O. A. Johnson, of Kansas City, Mo. Provided there is no misstatement on the bottle or package as to its contents, the manufacturer is free to sell his goods. Justice Holmes announced the majority opinion, Justice Hughes delivering a dissenting opinion, in which Justices Harlan and Day concurred.

The court acknowledged that "in a certain sense the statement on the label was false, or at least misleading," but it held that the language of

the pure food law is such that the statement contained therein as to the meaning of mis-branding "is aimed not at all possible false statements, but only at such as determine the identity of the article, possibly including its strength, quality and purity."

If a label were to state that the contents of a bottle was water when as a matter of fact it was other than water, it would come under the mis-branding in the meaning of the law, according to to-day's opinion. But the opinion adds that when the statement on the box or bottle of medicine is "shown to be false only in its commendatory and prophetic aspect," when the contents were "undescribed and unknown," it did not come within the act.—*Detroit Free Press*, May 30, 1911.

WILL CLEAN UP BAY CITY

Dr. Edwin Goodwin, the new health officer, after a month of preparation, including a two weeks' post-graduate course "brushing up" on bacteriology and microscopic work at Ann Arbor at his own expense, started in a sanitary inspection of Bay City such as the town has never before enjoyed. He expects to be busy a couple of months, as he will review the sanitary conditions surrounding all meat markets, dairies and milk depots, restaurants, grocery stores, ice cream plants, slaughter houses, bakeries, candy stores and a number of places where other articles of food are made. His procedure will be novel in that he has secured the free services of several men who are experts in their various lines of business.

Goodwin is a young man, only a half a dozen years out of the U. of M., and he was given his appointment by Mayor Woodworth with the specific understanding that he would put ginger into the health department and its work.—*News Item.*

BOOK NOTICES

1000 Surgical Suggestions. By Walter M. Brickner, B. S., M. D., Adjunct Surgeon Mount Sinai Hospital, Editor-in-Chief American Journal of Surgery, with the collaboration of James P. Warbasse, M. D., Harold, Hays, M. D., Eli Moschowitz, M. D., and Harold Neuhof, M. D. 225 pages. Cloth bound semi-de luxe, $1.00. Full de luxe, leather, $2.25. Surgery Publishing Company, 92 William Street, N. Y., U. S. A.

In 225 pages the editors have collected one thousand succinct and instructive hints based upon actual surgical experience.

The Suggestions are so arranged and indexed that all subjects covered can be immediately referred to, and the particular hint upon any particular subject immediately found. It bristles with pointed and useful suggestions which in many cases might just turn the scale from failure to success. Its mechanical presentation is a feature worthy of mention. It is square cloth bound, stamped in gold, printed upon India tint paper with Cheltenham type, and special marginal side headings in red. A dollar could not be better invested than in the purchase of this book.

Diagnosis and Therapeutic Technic. By Albert S. Morrow, M. D., Adjunct Professor of Surgery, New York Polyclinic. Octavo of 850 pages, with 815 original line drawings. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.00 net.

This book is printed on excellent paper in a large, easily read type, with each paragraph indexed in black-face letters. The illustrations are profuse, and minutely outline the various procedures.

The first two chapters are on general and local anesthesia. These two chapters are complete and valuable. They cover eighty-nine pages and seventy-five illustrations, and include preparation for anesthesia, a consideration of the stages of anesthesia, ether anesthesia, chloroform anesthesia, and the administration of each; nitrous oxid anesthesia and the nitrous oxid and ether sequence, ethyl chloride, anesthetic mixtures, special methods,—as intubation anesthesia, tracheal opening anesthesia, rectal anesthesia, scopolamin-morphine anesthesia, accidents and their treatment; after-effects of anesthesia; after treatment of general anesthesia.

The chapter on local anesthesia is similarly handled, as are chapters on sphygmomanometry, transfusion of blood, infusion of salt solution, hypodermic and intramuscular injection of drugs, Bier's hyperemic treatment, collection of pathological material, and a dozen other headings that we do not have room to mention. The book condenses all this material into an easily accessible form and will undoubtedly meet with a generous welcome.

State Board Questions and Answers. By R. Max Goepp. M. D., Professor of Clinical Medicine at the Philadelphia Polyclinic. Second edition revised. Octavo volume of 715 pages. Philadelphia and London: W. B. Saunders Company, 1911. Cloth $4.00 net; half morocco, $5.50 net.

For one who contemplates taking a State Board Examination, or an Army or Navy examination, and wishes to brush up on so many points on which the practitioner necessarily gets rusty, this book could not be improved upon. Questions are asked and answered touching every conceivable subject. The questions are actual questions asked during the past four years,—

chiefly in the larger and more representative States.

The index is complete, covering fifty-five double column nonpareil pages.

The Wizard of the Damavant, a Tale of the Crusades, by J. Richardson Parke, M. D., Sc. B., Ph. G., with twenty-eight illustrations. Professional Publishing Co., Philadelphia, 1910.

In this story Dr. Parke has presented a weird tale of the dim and distant past, teeming with strange situations and phenomena. The interest does not flag from cover to cover, and the climaxes are so arranged that one cannot help neglecting other things until he has finished the story. Dr. Parke neglects to give us his method of restoring the dead to life, but this scene is vivid, to say the least, giving us an honest, upright man instead of a scoundrel.

A Treatise on Diseases of the Nose, Throat and Ear. By William Lincoln Ballenger, M. D., Professor of Laryngology, Rhinology and Otology in the College of Physicians and Surgeons, Chicago. New (3d) edition, thoroughly revised. Octavo, 983 pages, with 506 engravings, mostly original, and 22 plates. Cloth, $5.50, net. Lea & Febiger, Philadelphia and New York, 1911.

Ballenger has covered both the medical and surgical aspects of the field of ear, nose and throat disease completely and entertainingly. His English is easy to read, his description clear, and, best of all, his illustrations are all that one could desire. Operations and even the various steps are pictured clearly, thus allowing the reader to follow in detail the description of the text.

This book was prepared by securing the reprints of articles and monographs from all over the world and incorporating the material thus obtained. The same method has been used in the revision, thus giving the reader the very best and the very latest information.

A Handbook of Practical Treatment. In three volumes By seventy-nine eminent specialists. Edited by John H. Musser, M. D., Professor of Clinical Medicine, University of Pennsylvania, and A. O. J. Kelly, M. D., Assistant Professor of Medicine, University of Pennsylvania. Volume II; Octavo of 865 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Per volume, cloth, $6 net: half morocco, $7.50 net.

Volume II of "Practical Treatment" is now being delivered, and cannot fail to please all who receive it. The general scope of this work was touched upon somewhat in our review of Vol I, as was also the splendid manner in which the subjects are handled. At this time, however, we wish to say that Vol II fulfills in every way all anticipation aroused by a study of Vol I. It considers the heart and infection diseases, and it is the method of handling these subjects that makes the work unique. In the treatment of typhoid fever the Brand method of tubbing is fully illustrated, and all the different methods of hydrotherapy, both in private and hospital practice, are described. The reviewer is pleased to note that warmer baths are advocated, the first bath not below 85°. This is more rational, and can be endorsed by many who have strongly revolted at the cold and ice baths previously recommended. In diphtheria the operations of intubation and tracheotomy are fully described and illustrated.

This is important, for, notwithstanding its heroic use of antitoxins, there are cases of laryngeal diphtheria where the child will surely die of asphyxiation before the antitoxin has time to dissolve the membrane and reduce the tumefaction unless either intubation or tracheotomy be done. Such a case occurred in the practice of the reviewer only last week.

The description of sanatoria and out-of-door treatment of tuberculosis by means of abundant illustrations is as refreshing as it is rare. It lends charm to the subject, aids in understanding what is intended to be conveyed, and beautifies the book. The volume fully complies with the modern idea of teaching the Practice of Medicine, and will surely be so regarded by all who possess themselves of it.

A Text Book of Medicine for Students and Practitioners. By Dr. Adolph V. Strumpell, Professor of Special Pathology and Therapeutics at the University of Leipsic. Fourth American edition, translated from the eleventh revised German edition by Herman F. Vickery and Philip Coombs Knapp. With six plates, three of which are in color, and two hundred and twenty-four illustrations in the text. Two volumes. New York and London: D. Appleton & Co.

The fourth American edition of Strumpell's Text Book of Medicine, in two volumes, translated from the seventeenth revised German edition, is on our desk for review.

The value of this work is attested by its world-wide recognition. The fact that the book has passed through seventeen German editions shows the respect and the esteem in which it is held by our very critical and scholarly friends in that country. It has also been translated into the French, English, Italian, Spanish, Russian, Modern Greek, Turkish and Japanese. Some of these translations have had several editions, as is the case with the English, the present being the fourth in America.

Characteristic of the work is the impression conveyed of the thorough personal knowledge possessed by the author of the subject treated. No hesitating statements, no references to some one else on mooted points, with the obvious intention of relieving the author of the responsi-

bility of committing himself, have been found by the reviewer.

The entire field of Internal Medicine is covered. Each individual disease is treated at length, or sufficiently so. In the primary disease the Etiology, Pathological Anatomy, Symptoms, Diagnosis, etc., are given. Complications are given special attention, and Treatment follows the whole.

The student or practitioner who guides his course by this work may be assured that he is relying upon a standard work of world-wide authority and recognized in every land.

The translation is exceptionally good when we consider how closely the text has been followed. A few mannerisms will be found. These lend spice to the subject, and help one to remember not only the statement made but its German authenticity. I would not have them removed.

MICHIGAN REGISTRATIONS SINCE LAST REPORT

Name and Address	College	Recip. Qual. or Exam.	License Issued
Tenney, Thomas J., Lansing	Detroit College of Med., 1907	Exam. Ann Arbor, 1908	6–25–08
Fowler, Walter N., Tecumseh	Univ. of Mich. Homeo. College, 1889	Rec. Qual. No. II with Indiana	5–6–11
Porter, Ward K., Detroit	Northwestern Univ. Med. School, Chicago, Ill., 1907	Rec. Qual. No. I with Illinois	5–8–11
Todd, George M., Toledo, Ohio	Univ. of Pa., Philadelphia, Pa., 1894	Rec. Qual. No. I with Ohio	5–24–11
Dolman, Ernest N., Detroit	Detroit College of Med., 1910	Exam. Detroit, May, 1911, 84.65%	5–27–11
Miller, Richard J., Bessemer	College of Physicians and Surgeons, Chicago, Univ. Illinois, 1910	Rec. Qual. No. I with Illinois	5–31–11

NEW AND REINSTATED MEMBERS SINCE LAST REPORT

MAY 20 TO JUNE 17, 1911

NEW

DICKINSON

Alving, Otto, Iron Mountain
Boyce, G. H., Iron Mountain

GENESEE

Ramoth, Charles P., Flint
O'Niel, C. H., Flint
Winchester, W. H., Flint

KENT

Henry, James, Grand Rapids
Hirschberg, Frieda, Grand Rapids

OAKLAND

Johnson, Fred. L., Holly

WAYNE

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Brinket, A. J., 236 Seyburn Ave.
Currie, E. M., 1697 Fort, W.
Raible, H. F., 510 Jos. Campau
Roberts, F., 852 Grandy Ave.
Rodd, Edwin, 955 Champlain St.
Young, E. B., Grace Hospital

REINSTATED

CASS

Fenstermacherm, C. C., Cassopolis

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Dockery, W. F., Sagola
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Pearson, C. B., Baltimore, Md.

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Miller, P. S., Grand Rapids
McPherson, A. G., Grand Rapids
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LENAWEE

Sutton, M. R., Clayton

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Hooper, S. E., West Branch

OTTAWA

Masselink, John, Zeeland
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Brock, Wm. H., Saginaw

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WASHTENAW

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Kositcheck, S. B., Chicago
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Smith, F. N., Ann Arbor
Woods, J. T., Chelsea

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Hislop, R., 757 Grand River
Sanderson, P.G., 270 Woodward Ave
Sigel, T., Breitmeyer Bldg.

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ORIGINAL ARTICLES

SOME POINTS IN SURGERY OF THE PANCREAS*

HENRY F. LEWIS, A. B., M. D., Attending Surgeon to Cook County Hospital, Chicago, Ill.

Surgery of the pancreas has undergone several new developments during the last decade; indeed, it may almost be said that it has had its birth within the last twenty years. Cases of recognized pancreatic disease are becoming more frequent of late years, as the attention of the profession is called more and more to that organ, and reports of surgical operations upon it are occupying greater space in the medical journals and more attention in the medical societies. Nevertheless, surgery of the pancreas is still enough of a novelty to be interesting, and the moot questions are still sufficient to call for interesting discussion and study. The cases of pancreatic operative surgery which fall to the lot of any single surgeon are still too few to allow him to draw many valuable conclusions from his own work alone. With this apology I will review the cases which have occurred in the Cook County Hospital during the last two years. Two of these six cases fell to my own service, and to these I will add one which recently came under my care in private practice. The rarity of pancreatic disease in Chicago may be shown by this small number of cases, only six, occurring in a general charity hospital as large as this institution is.

Two of these cases are of acute hemorrhagic pancreatitis. In one of them there was considerable fat necrosis and in the other none. Both of the patients were operated upon and both recovered.

CASE REPORTS

Case 1.—Acute Hemorrhagic Pancreatitis. T. H., single, laborer, aged thirty-four, Irish, was admitted to the surgical service of Dr. Davison on transfer from the medical service of Dr. Harpole. Early in the morning of entrance, while still in bed, he was taken with very severe pain in the region of the umbilicus and epigastrium; the lower abdomen was not involved. He began to vomit and repeated this several times during the day, although there was nothing characteristic about the vomited material. The onset of the trouble came upon him while in apparently perfect health and followed no excesses of any kind. Thirteen years ago he had an attack of abdominal pain, lasting a few minutes. Four years ago he began to have stomach trouble, consisting of rather constant pain made worse by eating; as he says, he had to "eat carefully." The

*Read before the Kalamazoo Academy of Medicine April 25, 1911.

pain came on directly after taking a meal. He did not vomit; he passed no blood by the stools; he did not lose much weight; he was never jaundiced; he never had pain in the region of the gall-bladder or appendix; he had been able to work all the time. He used alcohol moderately.

He vomited several times during the few hours while he was in the hospital before operation. He also had hiccoughs. The abdomen was tender in the region of the epigastrium; there seemed to be a fullness there. The abdominal walls were rigid in the upper portion; pressure of a hand on the epigastrium caused attacks of hiccoughing. The pulse was slow, of fair quality and regular. The temperature was 99 in the rectum; the respirations were 24. The leucocyte count was 17,000. He was transferred to the surgical service with a diagnosis of perforated gastric ulcer.

Operation was performed by Dr. Davison four hours after his first entrance and about fourteen hours after the onset of the acute symptoms. The median incision in the epigastrium allowed the escape of much watery fluid stained reddish. There was no perforation found in the stomach. That organ was somewhat distended. The pancreas was normal to the feeling. The gall-bladder, bladder and kidneys seemed normal to feeling. The diagnosis of pancreatitis was made by exclusion and the presence of the blood-stained fluid in the abdomen. The abdomen was drained.

There was no rise of temperature after the operation until the sixth day, when he had a fever of 101, a slight cough and slight icterus. These symptoms disappeared in a few days. The drainage ceased within two weeks, and the patient left the hospital recovered five weeks after operation.

Case 2.—Acute Hemorrhagic Pancreatitis with Fat Necrosis. Mary P., single, waitress, aged twenty-three, Austrian, was admitted to my service at the Cook County Hospital with the following history. Her previous health had been good, even without a history of indigestion. Three days before she was taken with attacks of vomiting, during the first of which she expelled about a wineglassful of bright red blood. She vomited several times during the remainder of the day, but the vomitus contained only a few specks of dark blood. At this time she complained of no pain. On the second and third days after the onset she felt well enough to resume work, although there was a feeling of distress in the epigastrium. About eleven o'clock of the morning of the fourth day, while at work, she was suddenly seized with severe colicky pains in the epigastrium, which radiated to the back. She vomited several times again, but no traces of blood. The bowels had not moved since the onset of the attack, and a colonic flushing returned clear.

Examination showed a well developed and well nourished girl evidently suffering great pain. The temperature was 99°, the pulse 124 and of good quality, and the respirations 24. There was no evidence of profound shock. The abdomen was full, but not markedly distended, the liver dulness was diminished in extent downwards, and there was considerable tympany. There was no marked dulness in the flanks. The epigastric region was very tender on pressure, but there was little abdominal rigidity. No tumor mass nor indurated area could be demonstrated. Vaginal examination as well as examination of the rest of the body was negative. A probable diagnosis of perforated gastric ulcer or pancreatitis was made.

I operated a few hours after the entrance of the patient. The median incision above the umbilicus at once revealed many small areas of fat necrosis in the omentum, and, as this was lifted away, in the mesentery. The stomach was somewhat distended, but no perforation was found. The pancreas was approached between the stomach and transverse colon. It was found to be very red and injected, and to show several areas of necrosis. The abdomen contained a moderate quantity of slightly reddish serous fluid. The abdominal cavity was washed out with a warm saturated solution of boric acid. I determined upon this because of the fact that the fat splitting ferment of the pancreatic juice and the trypsin act in alkaline media. Since the fat necrosis was evident, it appeared that these ferments were present in the peritoneal exudate. Therefore I thought it wise to wash out all the exudate possible with an acid solution. The only acid mild enough to be available was boric acid. Two gauze drains were passed to the anterior surface of the pancreas and out through the median incision.

The patient was put to bed with a continuous normal saline enema. The temperature remained between 100 and 101 for five days following the operation; the pulse ran about 90, full and strong, but, before the end of the first week, both had fallen to normal and the patient made a speedy recovery, leaving the hospital at the end of one month.

Case 3.—Pancreatic Cyst. V. J., single, peddler, aged thirty-six, Swede, entered the medical service of Dr. Harpole. He dated all his trouble from two weeks before entrance. He suffered severe pains in the back and arms, had not vomited until the morning of entrance, was considerably constipated, and exhibited an abdominal tumor which, however, he had not himself noticed before.

Examination revealed a large tumor mass in the epigastric region, somewhat fluctuant and slightly tender. Temperature, pulse and respiration were normal. He was at once transferred to my surgical service, where I operated upon him the following day.

An incision in the median line above the umbilicus revealed a large cystic tumor displacing the stomach upwards and the transverse colon downwards. The gastro-colic omentum was opened, and the cyst was emptied by means of a large trocar. About 2000 c. c. of dark brownish fluid was evacuated, the cyst walls were sutured to the peritoneum and skin by interrupted catgut sutures, and a rubber drain was left in the sac. The rest of the wound was closed in the usual manner.

The cyst discharged freely for several weeks, and the surrounding skin was more or less irritated in spite of application of lubricants and the use of weak solutions of acetic acid. He ran a slight temperature for about ten days. He suffered often from pains in the abdomen near the wound. For a few days of the second week a little of the gastric ingesta passed out of the wound upon the surrounding skin. I explain this feature by believing that my suture of the cyst wall came at one place too close to the stomach and caused the formation of a small gastric fistula there, or that the drainage tube slightly eroded the stomach wall. The stomach was adherent to the cyst, and it was impossible to fasten the cyst wall to the wound margin without placing the sutures rather close to either stomach or colon. The unpleasant symptom did not last more than a few days. When he left the hospital on his own request about four weeks after the operation, the sinus was still discharging and he suffered more or less annoyance from pains in the region of the upper abdomen, but was otherwise in good health.

The patient came into the hospital twice during the next two months after his first discharge, remained each time a week or two, and was regularly dressed. He finally left the hospital in practically the same condition about three months after his first entrance. The sinus was still discharging and the skin was somewhat irritated. He had frequent pains in the region of the wound.

Case 4.—Pancreatic Cyst. C. H., single, teamster, aged twenty-six, Scandinavian, had been operated upon in this hospital four years before for ileus, six months later for strangulated umbilical hernia, and in December, 1909, came in again with a diagnosis of duodenal ulcer. The laparotomy at that time showed the presence of a pancreatic cyst, which was treated by incision and drainage. A sinus remained which persistently discharged, especially when he exerted himself considerably. The skin was often irritated by the discharge. He had no particular pain, and enjoyed a good appetite. At times he had what he called "gas on the stomach." Before the operation he was much emaciated, but gradually gained in flesh afterwards.

He entered the hospital again in May, 1910, again in August and again in September. Each time he remained for several weeks and was regularly dressed. For several weeks during August and September he had some fever and some cough. The discharge was usually thin and purulent. His final discharge was in March, 1911, when he left the hospital improved but with the sinus still slightly discharging.

Case 5. — Pancreatic Cyst. Florence D., single, student of music and elocution, aged twenty-five, American, had always been in fair health, but never robust. Two years before, she had suffered a rather severe attack of influenza which was followed by jaundice. She had a goiter which had been noted for about two and one half years, but which was now smaller than ever and gave no symptoms. She had never suffered from any gastric disorders or marked indigestion.

Three days before I saw her she had observed much pain and tenderness in the upper abdomen, which was relieved by the removal of the corset. She had noticed no swelling. Pain soon came on at intervals, with nausea and vomiting. The pain eventually localized itself in the right side of the abdomen and in the right flank between the costal margin and the brim of the pelvis. Two days later, in the evening, I was called to see her on account of the increasing severity of the pains and increased nausea and vomiting. The bowels had moved that morning as usual.

Examination showed her lying in bed with the legs drawn up and evidently suffering considerable pain. She vomited frequently a bile-stained

fluid, which tasted sour. The pulse was of good quality and 90, the temperature was 102. I washed out the stomach with a weak soda solution, and thereby relieved her considerably. A rounded tumor was felt occupying the whole right hypochondrium and extending well towards the umbilical region and downwards almost to McBurney's point. Tenderness and muscular rigidity were very marked. There was no distention of the rest of the abdomen with gas.

She passed a good night, and the next morning the temperature and pulse were normal, but there was still present the tender mass in the right side of the abdomen. Pain increased a little during the day, and by 6 P. M. consent to the operation was obtained and she was removed to the Lakeside Hospital, where I operated upon her a little later.

The incision was about four inches long through the right rectus muscle, about two inches to the right of the umbilicus, and just over the lower part of the tumor mass. I confess that I did not make a diagnosis before operating, although I strongly believed that I should find an appendiceal abscess.

Upon opening the peritoneum a cystic tumor was revealed occupying the right half of the abdomen and situated subperitoneally. With the trocar over three quarts of clear coffee-colored fluid was evacuated, after the abdominal cavity had been protected from leakage by gauze pads. The cecum and part of the ascending colon lay over the lower part of the tumor and were of course intimately attached to it. Upon pulling up and separating the cyst, several smaller cysts containing a clear fluid were found over the right kidney. Suspecting a cystic kidney, I explored further, and found by inspection and palpation that the right kidney was negative and that the cysts had no connection with it. Besides the coffee-colored fluid in the main cyst was found a whitish gelatinous mass resembling that often seen in some ovarian cysts. Manual exploration of the abdominal cavity showed that the gallbladder and liver were apparently normal, that the internal genitals were negative, and that the cyst led down to the region of the pylorus and was intimately attached to the head of the pancreas. The duodenum was above the upper part of the cyst, and was raised by it as it grew underneath towards the right from the head of the pancreas where it originated. Since it appeared impossible to extirpate the cyst, I pulled it partly into the wound, excised the redundant portion, and stitched the edge of the rest to the abdominal wound. The abdominal cavity was flushed out with sterile boric acid saturated solution, as a precaution against any possible pancreatic juice which may have leaked into the cavity. The remainder of the wound was closed in the usual manner.

For three days the girl had several attacks of vomiting, which finally seemed to be relieved by soda. The wound rapidly healed without any excoriation of the skin. She was up and walking out in the street in two weeks, and the entire granulating surface was healed at the end of four weeks. Since then she has gained flesh and is in fine health.

Case 6.—Chronic Pancreatitis. E. F., single, iron worker, Swiss, entered the medical service of Dr. Portis at the Cook County Hospital. His previous health had always been good. He denied syphilis, but admitted gonorrhea; he used alcohol for twenty years to the extent of two beers and one whiskey daily, but used practically none for the last twenty years.

His present trouble began five months before entrance with sleeplessness, yellowness of skin, loss of weight (forty-five pounds in five months), itching of the skin, clay-colored stools and swollen feet. He had noticed swelling of the abdomen for about one month. His appetite had been fair, he had not vomited, his bowels moved regularly; he had no dyspnea until the abdominal swelling became extreme; he had lately had diarrhea.

Examination showed marked icterus, some dyspnea, greatly distended abdomen, liver dulness upwards to the fifth interspace, spleen and liver not palpable, marked dulness in the flanks changing with change of position. He had a hernia on the right side, some edema of the abdominal wall, much edema of the legs, an enlarged but not tender prostate. The urine contained much bile pigment and the leucocyte count was 6500. His temperature was 101; on the third day rose to 102. On the third day he suddenly began vomiting dark brown material, and shortly afterwards died.

The autopsy by the pathologist, Dr. Boughton, showed atrophic cirrhosis of the liver with biliary pigmentation of all parenchymatous organs; exudate in all serous cavities and chronic pancreatitis.

Case 7.—Pancreatic Abscess. H. L., single, aged forty, picture-framer. American, entered the medical service of Dr. Capps in the Cook County Hospital with an examining room diagnosis of typhoid. He had been ill about two

weeks with weakness, languor, some headache, anorexia, slight cough and abdominal pain. During the first week the pain had been in the lower part of the abdomen, but in the second week it came sharply in the right hypochondrium and gradually grew worse. During the first week he continued at work. He was constipated and took a cathartic. During the second week he vomited several times, mostly only gastric contents. He had never had any previous illness; he used alcohol moderately.

Examination showed slight jaundice, offensive breath, fair lung expansion, a few dry rales in both sides, heart dulness slightly enlarged, tones regular but indistinct, pulse slow and dicrotic. The abdomen was distended, tense, tympanitic, and showed a visible mass in the right hypochondrium, diffuse, tender and tense. He was put upon typhoid orders. His temperature was 100. 4, but rose in a few hours to 102. 5 and 103. A colonic flushing returned dark green with unformed fecal flakes. The urine contained much albumen, hyaline casts and a few granular casts. The leucocyte count was 19,550; the Widal test was negative; both speaking against typhoid. During the three days while he remained on the medical side his temperature ran between 102 and 103, he was very drowsy but often in pain; the abdomen was always tender and the liver dulness was enlarged downwards. He was transferred to the surgical service of Dr. Besley, with a diagnosis of hepatic abscess.

Operation the next day by Dr. Besley. The incision in the right hypochondrium revealed a large abscess entirely walled off from the general peritoneal cavity and presumably pancreatic in origin; this was drained by rubber tubes. He improved slightly after the operation under the influence of continual normal saline enemata, but gradually failed and died five days after operation.

HISTORY

The history of pancreatic disease begins with the year 1881, when Bozemann successfully extirpated a cyst of that organ. In the same year Kulenkampf treated a similar case successfully by incision and drainage. In 1882 Gussenbauer stitched a cyst to the abdominal wall and packed it with gauze. Senn's work in 1885 was the pioneer attempt at systematic study of pancreatic disorders. He showed that wounds of the pancreas in dogs healed kindly. In 1893 Nimier and in 1898 Korte published epoch-making monographs. Mayo Robson in 1900 laid down some principles of correct pancreatic surgery. Mikulicz, in 1903, urged that pancreatitis should be treated like any other phlegmon, namely, by incision into the infected portions of the gland and drainage through the abdominal wound. Porter, of Boston, the same year put this theory to practical and successful proof. In 1896 Reidel first gave results of careful study of chronic pancreatitis, and in 1900 Robson enunciated the fundamental principle in treatment of such cases, namely, in separating the ducts of the liver and the pancreas by relieving the common duct as much as possible of its bile-carrying function.

ETIOLOGY

The etiology and pathogenesis of pancreatic disease have become more crystallized during the last few years. Fitz thought that gastric and duodenal indigestion rendered the patient especially liable to pancreatic affections. Opie and Robson regarded a pathological condition in the bile ducts as a most probable etiological factor. Simon Flexner's experiments showed that bile salts are possible sources of hemorrhagic pancreatitis. He found that the fresher the bile the more acute the effect upon the pancreas. He found that, if bile was altered by admixture with a colloid material such as is yielded by catarrh of the bile ducts, it caused a more chronic change in the pancreas.

Hlava's experiment pointed to the action of hyperacid gastric juice entering the pancreatic duct, and thence the gland as a possible cause of pancreatic infection. He injected HCl 0.1% solution into the pancreatic duct of cats, and caused a hemorrhagic pancreatitis fatal in three days. Similar results were obtained by

injection of fatty acids, of bacterial cultures and other fluids. In some mere ligation of the duct produced disease of the gland.

The relation of gall-stones and of gall-bladder infection to pancreatic inflammations has long been suspected. Opie, of Johns Hopkins, collected cases of pancreatitis associated with gall-stones, in 8 of which the calculi were impacted in the common duct. He later found in a post mortem case a small stone in the ampulla of Vater just at the entrance of the duct into the duodenum. This stone prevented both bile and pancreatic juice from entering the duodenum freely, but allowed and favored the passage of bile from the common duct into the pancreatic duct. In some cases it is probable that the duodenal opening is occluded by mucus and thus favors the flow of bile into the pancreas.

Statistics of the Mayos, based upon 2611 cases of operations for bile duct disease, show that in 7.5% the pancreas is involved. Egdahl, in an analysis of 105 cases of acute pancreatitis, concludes that 42% of such infections are associated with gall-stones. He also concludes that so-called catarrhal jaundice is most frequently caused by chronic pancreatitis and this in turn by duodenal catarrh. The infection of the head of the pancreas by way of the duodenum causes it to become swollen. The swollen head of the pancreas compresses the common bile duct, which passes through the head of the pancreas in two-thirds of the cases. In consequence of this compression the flow of the bile is impeded and resorption of bile occurs, causing the icterus.

The relation of mumps to subacute and chronic pancreatitis is interesting and rather puzzling. Egdahl believes it a factor in 10% of the instances. He considers it metastatic as in the involvement of the testis. One is reminded in this connection of the anatomical similarity of the salivary and pancreatic glands. Cuche, in an epidemic of mumps, observed 20 cases of infection of the pancreas in 26 cases of mumps. Edgcomb saw 5 cases in 33 cases of mumps in a boys' school.

CHEMISTRY AND PHYSIOLOGY

The chemistry and physiology of pancreatic diseases have been the causes of various laboratory methods and devices for the testing of the secretions of the pancreas and of its metabolic influences. The relation of the pancreas to glycosuria has long been known, and it would seem that any destructive disease of the organ would soon show itself in the appearance of sugar in the urine. Practically, however, the testing of the urine for sugar is of small value. The glycogenic function of the pancreas seems to be seated in the islands of Langerhans, situated between the acini of the secreting glandular portion. Infectious disease of the gland seems to destroy the glandular acini first, and not to attack the islands of Langerhans until so late in the disease that the value for diagnostic purposes has long since gone by.

The Cammidge test of the urine as an indicator of pancreatic disease has been the object of much controversy. The originator elaborated a rather complicated, difficult and delicate chemical procedure to discover the presence in the urine of a substance allied to sugar but not identical, namely, pentose. In his hands and in those of Mayo Robson, also of London, the test seemed, at least in chronic cases, to be as valuable as any laboratory method which we possess for the detection of any morbid processes in the body. Unfortunately, most of those who have attempted to follow Cammidge have failed to obtain any results of much diagnostic value. In most reports the investigators mention the positive result occurring in a large proportion of cases where pancreatic disease is

known to be absent. At best the test is long, complicated, and extremely technical, requiring an expert chemist for its performance. It is of course not adapted for acute cases. Boos and Harmer, of Boston, made some careful experiments with Cammidge's reaction, and deny it any practical diagnostic value. They found a positive reaction in every case where there was a white blood count of over 13,500. In most of these cases there was no suspicion of pancreatic disease.

The presence of much fat in the stools and the detection of the normal amount of bile salts in the feces point to pancreatic deficiency. Of course both bile and pancreatic fluid act to split or to emulsify fat. Mueller's test of the feces consists in giving a calomel purge after a test meal, in sterilizing a few drops of the feces by high heat, placing them on an agar plate containing Loeffler's serum and subjecting the plate to a temperature of about 135 F. for twenty-four hours. If trypsin is present, the surface of the plate shows marked depressions where this substance has been active; if trypsin is absent, the surface remains smooth.

DIAGNOSIS

Fitz classified acute pancreatitis as hemorrhagic, gangrenous and suppurative. Each in turn is the sequel of its preceding class. Many cases, indeed most of the very acute cases, die before they reach the gangrenous stage, and few reach the stage of suppuration. The suppurative stage may be considered as the convalescent stage of the hemorrhagic and gangrenous forms. The majority of acute infections of the pancreas begin with hemorrhage within the substance of the gland. The flow in the pancreatic duct is very slow, and a few centimeters of mercury will prevent further flow, by damming back the secretion. Obstruction to the flow through the duct acts like the injection of the gland's duct experimentally. The juice becomes mixed with bile, duodenal contents, and whatever microbes may be present in these fluids. The walls of the pancreatic ducts become eroded by digestion, and allow the juice to escape into the parenchyma of the gland. It then erodes the blood vessels and causes hemorrhage into the substance. The infection also causes an exudate into the interstitial tissues. Thus we get the condition of an acute hemorrhagic pancreatitis. If the condition lasts long enough, necrosis ensues and the gangrenous form is present. In the milder cases the condition may endure long enough for the formation of localized collections of pus. In the early stages the infected portion of the gland is swollen, hard and deep red. This stage may last only a few hours, and at operation gangrenous spots will often appear, as in my case number 2. Blood is likely to ooze from the surface or to escape from eroded vessels near the surface of the gland, accounting for the presence in the peritoneal cavity of the bloody fluid so often observed, as in both of our acute hemorrhagic cases. Mikulicz's view of acute pancreatitis as an acute phlegmon seems to be a true one. The picture is that of a fulminating infectious process, causing hemorrhage and necrosis in a very short time and, provided the patient survives long enough, suppuration.

Disseminated fat necrosis is a phenomenon usually seen when the abdomen is opened, in cases of acute pancreatitis. Its absence in my first case reported places some doubt upon the diagnosis. Necrosis of the fat of the peritoneum was first described by Balser in 1882. He thought that it was a disease of itself and the cause of the inflammation of the pancreas. The spots of fat necrosis are small, only a few millimeters in diameter, and appear as grayish opaque spots on the surface of the peritoneum of the omentum, mesentery,

parietal and sometimes diaphragmatic peritoneum. The condition is due to the alteration of the fat in the subperitoneal tissues by the action of the escaped pancreatic juice. The fat splitting ferment of that juice, in connection with trypsin, changes the fat into fatty acids, which remain in the spot as crystals, and into glycerine, which is dissolved and absorbed by the tissues. The fat splitting ferment probably may also be conveyed to the fat cells by way of the lymphatics.

In connection with the diagnostic importance of fat necrosis of the peritoneum, I have permission to refer to an interesting and instructive case operated upon recently by my colleague, Dr. H. M. Richter. The patient presented symptoms of a perforating ulcer of the duodenum and was operated upon for that condition. On opening the abdomen the cavity was seen to contain the brownish fluid characteristic of pancreatitis, and there were large numbers of spots of fat necrosis throughout the peritoneum. Examination of the pancreas showed some injection, and the diagnosis of acute pancreatitis with disseminated fat necrosis seemed fairly well established, until a careful examination of the duodenum disclosed a perforation therein from which the same fluid was escaping which had been observed in the abdomen. The perforation was found to be near the ampulla of Vater, and the pancreatic juice escaping therefrom evidently caused the fat necrosis observed. The ulcer was closed and the patient recovered. It seems probable to the mind of Dr. Richter, and I agree with him, that some cases of supposed pancreatitis may really be cases like this one, where the fresh juice pours into the abdomen from the perforation of the duodenum.

I think it must be admitted that the diagnosis of acute pancreatitis is rarely made before the abdomen has been opened. The onset is sudden, and resembles the onset in many other acute conditions within the abdomen. Fitz's classical description of the symptoms of acute pancreatitis is still graphic. The disease begins with intense pain, especially in the upper abdomen, soon followed by vomiting, which is likely to be obstinate, and not infrequently by slight epigastric swelling and tenderness with obstinate constipation. Normal or subnormal temperature may be present, and symptoms of collapse precede by a few hours death, which is likely to occur between the second and fourth day.

The differential diagnosis must be made between obstruction of the bowels from hernia, intussusception, etc., and perforating peritonitis from the gall-bladder, stomach, duodenum or appendix. The picture of a typical case of pancreatitis is of severe pain in the epigastrium, without corresponding tenderness, feeble, low pulse, persistent vomiting, and slight prominence of the epigastrium. If an excess of fat appears in the stools, the diagnosis is strengthened. It will easily be seen that this clinical picture is not essentially different from that presented by many severe acute pathological states in the upper abdomen.

PROGNOSIS

The prognosis of acute pancreatitis can hardly be stated in figures, so much depends upon the degree of the lesion, which is not always indicated by the severity of the symptoms, the time when the patient comes to operation and the skill of his attendant. Mikulicz collected 27 cases of acute pancreatitis where drainage had been employed, with a mortality of 38%; and 41 cases where drainage was not employed or not mentioned, with a mortality of 80%. While the mortality of operation on cases of pancreatitis done during the acute stage is much greater than when done after the subsidence of the acute stage, yet that

circumstance only proves that the late cases were well on the road to recovery before operation. Most of the cases not operated upon during the early stage never live long enough to reach a later stage. Balch and Smith, in a series of 21 cases of acute pancreatitis, had 5 recoveries.

Fitz, in 1889, thought operation unjustifiable except in those cases which had lasted long enough to have abscesses. Since then the opinion of surgeons generally is that incision and drainage with or without incision of the gland itself offer the best hope. The sole object of operation is to supply free drainage for the infectious material and the dangerous pancreatic juice. In two of my personal cases where there was danger of pancreatic fluid contaminating the peritoneal cavity, I washed out the peritoneum with sterile saturate solution of boric acid, in order to neutralize the alkaline trypsin and fat splitting ferment. I do not know whether this has been recommended by others. Probably it has. I based the procedure solely upon theoretical considerations. Ordinarily, when operating in a possibly infected peritoneum, I do not irrigate the cavity, fearing more danger from spreading the infectious bacteria farther than they have already gone. On the other hand, when we are dealing with the irritating chemicals in the pancreatic juice, washing out the belly will remove all of the chemical.

In some cases the condition of the patient from shock is such that the only thing justifiable is opening of the belly and drainage of the fluid. This alone will sometimes produce a cure by removing the infectious material and giving a chance by increasing the patient's resistance, as in Case 1.

In chronic pancreatitis we are dealing with a different proposition than in the acute forms. The immediate danger to life is not great, but the aggregate of suffering is often so much that operation is imperatively demanded. The induration which is often felt in the head of the pancreas during operations for gall-bladder or gall-duct disease is sometimes attributed to carcinoma. After a fatal prognosis has been given, the drainage of the gall-ducts may remove the cause of the chronic pancreatic inflammation, and the patient may recover. I have myself met with several instances where I have operated for supposed gall-stones, and have been surprised to find so little pathology in the bile tract, judging from gross appearances. I have seen patients recover from their symptoms after the gall-bladder has been drained and the damming back of the bile and pancreatic secretion has been relieved. This point is spoken of by many surgeons.

Cholecystotomy is recommended by most authorities for the treatment of chronic pancreatitis. Some, reasoning from Flexner's experiments, and mindful of the mucus secreting function of the gall-bladder, recommend cholecystenterostomy.

Cysts of the pancreas are relatively not very rare. Gussenbauer, in 1882, first called attention to their correct diagnosis and treatment. Korte collected 177 cases of operations for such cysts prior to 1902. Ten cases occurred in McBurney's clinic from 1890 to 1900. The cause of the cyst is retention, cystadenoma or liquefaction of inflammatory exudate. In the first two there is likely to be continual secretion of the pancreatic juice, and therefore the persistence for considerable time of a fistula after operation and drainage. In the last the so-called pseudocysts are less likely to be followed by a persistent fistula because the secretion of the glandular juice does not occur. Of the three cases of pancreatic cyst which I report, two were followed by persistent fistulæ, and one, that of the young woman, was followed by complete healing within four weeks. The probabilities are

that the last case was one of pseudocyst not lined with secreting glandular epithelium.

It is rarely possible to excise the whole of a pancreatic cyst, except in the rare instances where it is attached by a sort of pedicle to the tail of the gland. In the great majority the operation must be incision and drainage, with the risks of a subsequent fistula, often of long duration and always of great inconvenience. The cyst usually reaches the anterior wall of the abdomen between the stomach and the transverse colon, and is opened through the gastro-colic omentum. Sometimes it appears above the stomach and is approached through the gastro-hepatic omentum; sometimes it appears below the colon. The tail or the body of the pancreas is usually the starting point of the cyst, rarely the head. In my Case 5 the cyst originated in the head of the gland towards the right and grew under the duodenum, which it pushed upwards, and appeared in the right lumbar and right umbilical regions, pushing up at its lower margin the cecum.

The treatment of the persistent fistulæ which follow the operation upon many of the pancreatic cysts is often unsatisfactory. Some of these will discharge for years, often a fluid which is very irritating to the surrounding skin. For the protection of the skin, ointments are only partly satisfactory, because the fat in them is soon disintegrated by the discharge. A weak solution of acetic acid is recommended by some, and lime by others. Measures intended to stop the discharge are some of them useless and others dangerous. Injection of strong solutions of astringents and antiseptics are of little value, and not without risk. Burmeister recommends suction pump drainage, and reports successful cases. Wohlgemuth, from experiments in feeding dogs and studying the amount of pancreatic fluid secreted under different feedings, found that with a pure fat diet the secretion was minimum, with proteid diet more and with a carbohydrate diet maximum. He therefore advises, in the treatment of pancreatic fistulæ, a diet free from carbohydrates, and reports good results.

In conclusion, I wish to thank my colleagues on the staff of the Cook County Hospital for the references to their cases, and my interne, Dr. Flansberg, for valuable aid in arranging the cases.

29 E. Madison St.

GYNECOLOGICAL HINTS

(Waldo—*International Journal of Surgery.*)

The best time to draw the urine before an operation is after the woman has been placed under the anesthetic. The bladder is more apt to be thoroughly emptied and there is less liability of infection.

Before suggesting any form of treatment, especially operative, a thorough general examination should be made, for the gynecologist's advice will be much influenced by the condition of the heart, lungs, and kidneys.

The intrauterine use of instruments, as sounds, curettes, dilators, etc., is a surgical procedure and should seldom, if ever, be indulged in out side of the operating-room, and under no circumstances without thorough antisepsis. Formerly the uterine sound was a fertile source of infection of the uterine cavity, the Fallopian tubes and occasionally the peritoneum, not to mention the large number of abortions that were accidentally produced.

The only way to obtain primary union after removal of the coccyx is to have the patient lie on her face during defacation or urination; otherwise the dressing is bound to become soiled and the wound infected. After the first movement of the bowels the patient will find no difficulty. It is well to give a cathartic, instructing the nurse what to do, and let her have it out with the patient.

EARLY RECOGNITION AND TREATMENT OF HYPERTHYROIDISM*

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A much and rightfully discussed condition, that of hypersecretion of the thyroid gland with its accompanying chain of harmful symptoms, is constantly before us. Do we recognize it as an acute disease, treating it early and by radical measures, or are we prone to submit to the early ideas of palliative means with the hope that a cure may follow? It is a serious condition and, I feel, too often met with the assumption of a minor ailment. This may be due, in some cases, to the lack of a correct diagnosis; but it adds only to the discomfort of the patient and cheats him of the best chances of relief and permanent cure rightfully his.

The gland itself is composed of two lobes and an isthmus, horseshoe shape across the front of the neck. The capsule is quite firmly attached posteriorly, being in intimate relation with the tracheal rings. The close proximity of the large vessels and nerves to the lateral lobes is most important to note. Especially is this true of the right recurrent laryngeal nerve and the inferior thyroid vessels with the gland capsule. The parathyroid bodies lie, normally, at either pole, closely related to the gland capsule at the entrances of the main blood supply. It is a ductless gland, very vascular, and the alveoli have ample opportunity of entering their secretion directly into the general circulation.

Most clearly it is demonstrated that alarming symptoms are caused by hypo- and hyper-secretion of the thyroid gland. As to definite etiological factors causing this change of activity we are, in a large degree, uncertain. It is of the hypersecretion that I wish to speak. In the present day of lymphoid tissue research, we cannot overlook the tonsil, and most certainly we find associated in some cases of hypersecretion a diseased condition of the near lymphoid structure, a chronic infection of which may liberate toxins, exciting the secretory functions of the thyroid. Erbstein,[a] on "The Treatment of Exophthalmic Goiter," says: "Auto-intoxication from chronic constipation is very liable to have an injurious influence upon the thyroid." He reports four cases of hyperthyroidism showing remarkable benefit following cure of this obstinate intestinal condition.

Hereditary tendency to the disease must be recognized, for we may trace families for three and four generations some member or members of whom are afflicted with thyreotoxic symptoms.

Marine believes that hyperthyroidism is induced by the lack of some essential secretion of the thyroid considered as a complex substance, and in the effort to restore this, an excess of some component part of secretion is produced to a toxic degree.

In favor of the intoxication theory O. M. Mitchell[b] writes that "in a series of thirty-three cases of chronic nephritis

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studied by Baker & Haines, 48.4% showed exophthalmus. From the work of Landstrom on Exophthalmic Goiter, and their own (Baker & Haines) observations, they state that the conclusion lies very near, that in both diseases a chronic systemic intoxication affecting the autonomic system is the causative factor in the production of the ocular manifestations." And concludes by saying, "Exophthalmus has not been noted in *experimental* chronic nephritis or other conditions produced by chronic systemic intoxication before his recent publication. That the exophthalmus did depend upon such an intoxication is the most probable explanation."

The potent influence of the psychic factor is admitted. There seems to be a marked hypersensitiveness to fear and trauma. Crile[c] says, "There seems to exist between the brain and the thyroid gland in Graves' Disease a pathologic reciprocal interaction, and that this can be maintained through a nerve connection only."

The terms Basedow's Disease, Graves' Disease, exophthalmic goiter, to express the hypersecretion of the gland, are unfortunate (as mentioned by Drs. Chas. Mayo, A. Kocher, and others), each carrying with it a symptom complex, and the gravity of the disease is not seriously looked upon and energetically treated until the classical symptoms have developed. It is by this time that the serious degenerative changes may have developed.

This is our opportunity. It is within our grasp to rescue the patient from the inevitable ravine; a damage which neither internist nor surgeon can repair.

Briefly, the most important symptoms of hypersecretion:

(1) Fine tremor of the hand—seven to nine vibrations to the second.

In extreme cases there is often muscular weakness and even atrophy; in how far they are related to fatty changes in the muscle, described by Askandzy, we do not know.

(2) Tachycardia is the most common heart condition. In the severe cases a very irregular pulse rhythm develops; and often an increased arterial pressure (though this varies considerably and may even be diminished). Throbbing of the carotid vessels and abdominal aorta is frequently noted. Later edema of the legs, hands and eyelids may develop.

(3) Exophthalmus, very noticeable when present; yet the disease may be well advanced before this condition appears. We may note: (a) Failure of the upper eyelid to follow the eyeball normally in looking down (Von Graeffe). (b) Revealing of some sclera above the cornea—widening of the palpebral orifice (Dalrymple). (c) Infrequent and incomplete winking (involuntary), (Stellwag). (d) Lack of convergence (frequently present as an early symptom), (Moebius). (e) Failure of the forehead to wrinkle on looking up (Jaffroy). (f) Epiphora (overflow of tears). (g) Subjective feeling of pressure behind the eyes (A. Kocher).

(4) The struma or goiter; there may be considerable glandular enlargement, or, we may be unable to palpate it at all. The size of the thyroid tells us little, for at operation a non-palpable gland may be surprisingly large when disembedded.

Again, we have the symptoms of hypersecretion superimposed upon the ordinary colloid type, in which event the thyreotoxic symptoms appear to be mitigated. These glands show us, microscopically, a marked increase in the cellular element projecting into the colloid filled vesicles.

The general symptoms are; 1, vasomotor instability; 2, psychic manifestations: anxiety, restlessness, alternating moods, insomnia, headache, vertigo, hallucinations, and even delirium in extreme cases; 3, pig-

mentation of skin; 4, sweating; 5, gray hair (canites praematura); 6, falling of the hair; 7, anemia; 8, emaciation; 9, slight fever is frequent; 10, vomiting and diarrhea, though transient, occasionally occur; 11, albuminuria is sometimes present, especially in advanced cases, with occasionally hyaline and granular casts.

"It must be remembered," says Dr. Charles H. Mayo,[d] "that malignant goiter may, at times, present the most aggravated picture of Basedow's."

Shall cite one patient in question which will illustrate the slow but steady progress of the disease (exophthalmic type superimposed upon the colloid type).

Patient 1.—Miss L., age forty. Presence of goiter twenty-two years. Prominence of eyes first noticed eight years ago. Gradually developing nervousness for four years. Gradually increasing shortness of breath on moderate exertion for eight months. (Before entering hospital.)

Examination on entrance to hospital: Slight emaciation; fair color mucous membranes; prominent eyes and associated signs present; enlargement of neck; voice husky; considerable enlargement of heart (dilatation); pulse 120 to 140 per minute and very irregular in rate and rhythm; fine tremor of hands is marked; no retrosternal dulness. Urine: trace of albumin present, no casts.

Rest in bed for two weeks lowered the pulse rate to 90, though somewhat irregular. General condition was improved.

Operation: ether anesthesia, preceded by hypodermic of morphia gr. 1-6, atropia gr. 1-150. Right lobectomy done, free drainage through small opening left in wound. Patient recovered slowly; for forty-eight hours the pulse was very irregular and rapid, at times almost imperceptible, from 140 to 170 per minute. Temperature at its height 102°.

The patient remained in the hospital four weeks. The pulse rate was then 90 to 100 per minute, slightly irregular. The general condition was much improved, and the patient remained comfortable for six months. The myocardial condition was very evident, for at the end of this period of time, with carefully regulated exercise and quiet surroundings, the shortness of breath reappeared and there developed marked edema of the lower extremities. In this condition the patient re-entered the hospital for further treatment. One week's rest in bed sufficed for the disappearance of the shortness of breath and edema. We ligated the left superior thyroid vessels. Recovery from operation was uneventful. Patient left hospital within three weeks, feeling better than in the two years preceding the operative procedures.

While definite signs of degenerative conditions, especially myocardial changes and pronounced exophthalmus are present, the edema has not returned. The patient remains comfortable, with moderate exercise, at eight months following ligation.

In advanced cases, there is seldom any question of diagnosis. It is the early cases, those without a noticeable thyroid, that need our keenest sense of recognition. The dilatation of the heart must be differentiated from dilatation with hypertrophy and compensation; the exophthalmus, from the protrusions of increased intracranial pressure, of aneurism, and sinus thrombosis; the fine hand tremor from the coarser types of general and functional diseases.

Practically every case will respond to medical measures—complete rest, bromides if necessary, comfort, careful diet, fresh air; and many will so much improve as to re-enter the gaieties of life, only to return for more rigid treatment than previously instigated. A few may, by living a quiet life, remain comfortable.

It is not the present condition for which we are responsible, but the later injuries that become manifest: the degenerative lesions of the heart muscle, liver and brain cells, and the permanent exophthalmus. It is the second and third attack, or the slowly progressive condition, with permanent tissue damage, from which we should shield the patient. It is the early condition for which surgery may promise much.

In a recent communication from Dr. Charles H. Mayo, he states: "We see few

early cases. However, it is hardly necessary to remove half the gland. A double ligation of the superior thyroid arteries seems to practically check the disease and direct the thyroid toward a normal condition." I feel that his results go far in picturing the good that may be accomplished by this practically simple and safe operation, if done in the early stages of the disease. Kocher[e] says: "Surgery has proved itself superior to any form of treatment. It attacks the organ which is instrumental in producing the toxicosis. In early cases, where there has not been insufficiency of heart, complete recovery and subsidence of all the symptoms is the result of operative treatment."

In the advanced cases, it must be conceded that the operation is a serious one, and that we can not restore to normal the organs already affected by the degenerative changes. Yet we may check the progress by reducing the toxemia.

The method of procedure, whether it be single or double ligation, with later partial extirpation or the partial removal at the first operation, and the choosing of local or general anesthesia, can be settled only by a careful study of the patient, with special stress upon the early improvement under rest and quiet surroundings, and this by the surgeon himself.

There is a mortality under the most cautious conditions, in the advanced cases of 3–5% (Mayo 3–4%). While we feel that the operative experience of a surgeon lowers his mortality, yet an all-important and perhaps the most vital point is to know when your patient is in a proper condition to stand the ordeal, and just how much to do at one time.

We may ligate the superior vessels on one or both sides; later expose the gland; and finally remove a portion of it. Tinker, of Ithaca, N. Y., refers to an operation in which five stages were deemed wise for the partial removal of the gland and the closure of the wound. Crile[c] insists that we should use local anesthesia along with the general, and ligate en mass the tissues about the upper pole with the superior thyroid vessels; thus blocking any nerve impulse to the brain cells during the manipulation of removing a part of the gland.

I feel that the psychic element is a great factor. Yet we must not lose sight of what we once termed the vital points—the squeezing of thyroid secretion into the wound by operative manipulation, and the lack of sufficient drainage. Insufficient drainage is frequently followed by thyreotoxic symptoms. These symptoms are relieved by the removal of this pent-up fluid, and demonstrates, to a certain degree at least, that the absorption is a causative factor in post-operative symptoms. It is true that we do not have the dread of thyroid secretion in the wound that we had a year ago, yet every factor should be taken into consideration in working for the betterment of the patient and the success of thyroid surgery.

Under ordinary circumstances, the general anesthetic (drop ether with the open cone) is to be preferred, the patient being given a hypodermic of morphia and atropia when starting for the operating-room. Even in advanced cases, when the patient is aware of an operation, though not knowing the day or time, no alarming symptoms have arisen by simply following a careful operative technique. I prefer that the patient be taken to the operating-room in the early morning, when he (or she) is anticipating breakfast. There should be no delay in starting the anesthetic, and the pulse rate will be little accelerated after the excitement stage.

In the *far* advanced cases, the question of anesthesia and method of administration plays even a greater role. I am glad to

have personally seen the results of some of Dr. Crile's methods[c] with these cases while on the resident staff of Lakeside Hospital—methods which he has developed to a most satisfactory degree. This consists in the daily inhalation of volatile oils with ether upon the ward under the guise of curative treatment (first having obtained operative permission should this course seem necessary), the patient perhaps losing consciousness under some of the treatments. When deemed wise the anesthesia is deepened to the second stage, and the patient is rushed to the operating-room. Nitrous oxid-oxygen anesthesia is substituted for ether, and a part of the gland removed, or ligation done, as has been decided upon by a careful study of the case on the ward. This method of anesthesia, combined with the cocainization and ligation before extirpation, claims much for the relief of the now doubtfully operative class of patients.

The vigilance in post-operative care for the first forty-eight to seventy-two hours reaps its reward. Care in operative technique undoubtedly relieves us of certain alarming symptoms, yet the anticipated treatment, such as the comfort of the patient, perhaps small doses of morphia, plenty of fluids and ice over the precordium, may help crown the operative success. The operative procedure is but one phase. A rest cure of two, four, and sometimes eight months, as emphasized by Dr. Jos. C. Bloodgood, is essential. The patient experiences early relief of the most disagreeable symptoms, and this acts only as an incentive for them to enter again upon social activities. This must be most cautiously guarded against, for a life once producing the glandular condition may, even after partial extirpation with relief of symptoms, cause a return of the disease and hypertrophy of the remaining thyroid tissue.

In conclusion, may I insist that we treat with extreme care the patients under our personal supervision, and teach them how to live when again thrown into the turmoil of this vigorous world.

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GYNECOLOGICAL HINTS

(Waldo—*International Journal of Surgery.*)

A fractured coccyx may produce many symptoms that may lead one to think that a woman is suffering from uterine disease. I had a case in which a fractured coccyx was overlooked by three competent gynecologists. It can be easily detected by placing the index finger of one hand in the vagina against the coccyx and the other index finger over the coccyx externally. In this manner a false point of motion can be easily determined, and if pressure at this point produces pain, the condition requires treatment. Usually removal of the fractured end of the bone and callus is the only measure that will afford relief.

NEWS

The Michigan State Board of Health has issued an order prohibiting the use of public drinking-cups in all public places, railway trains, steamships, and other public conveyances after July 20th. This notice applies to public buildings as well.

The common council of Saginaw passed an ordinance on July 17 regulating the killing and inspection of meats for local consumption. All animals not slaughtered in the city must have certain internal organs left, that proper inspection may be made.

TWO TYPES OF GASTRIC SURGERY*

WITH SPECIMEN EXHIBIT AND COMMENTS

SCHUYLER COLFAX GRAVES, M. D.
Grand Rapids, Mich.

I think I may state, without fear of successful contradiction, that at least one of the most commanding and far-reaching subjects which can concern a long-suffering public, is that of gastric carcinoma and its surgical aspect. Gastric carcinoma has of course a medical aspect; but this does not interest us particularly, because it offers no present hope of cure. It leads merely to palliation.

What concerns people to-day and what concerns surgeons to-day is the question of the curability of gastric carcinoma. Can cancer of the stomach be cured? If attacked early enough and in a moderate percentage of cases,—yes. If attacked later than the accepted time,—no. This, then, is the nub of the question,—early removal, not removal after a palpable tumor is present, for, as Crile says, "a palpable tumor is a terminal indication." And Crile is right except perhaps in a few cases of movable tumor of the pylorus.

Cancer of the stomach should be attacked before it can be palpated; before the lymph glands have become hopelessly infiltrated or hematogenous infection has occurred; before the patient has been reduced by malnutrition, hemorrhage and toxic absorption to a state of low and fast-ebbing vitality. Can this be done? In a certain number of cases,—yes. How can it be done? By an early accurate scientific diagnosis. Is this always possible? Not always, I grant; but it can be done sometimes, and has been done especially with the aid of an exploratory incision.

We know that gastric cancer is a very common malady. It runs a relatively rapid course. One to three years from the actual commencement, then the unescapable grave. That anything can be offered with any degree of certainty to interfere with this solemn program, to snatch a brand from the burning, is a matter for genuine congratulation.

I do not propose going very deeply into a subject so vast, nor do I propose making this a percentage or a statistical paper, for percentages and statistics are unreliable. The pith or core of the matter can be stated briefly:

Cancer of the stomach is the commonest form of human carcinoma. It often results from a pre-existing ulcer, unhealed or even healed, for instances are on record of origin from the cicatrized base of an ulcer that was. This is peculiar, because while continued and continuing irritation has long been known to operate as a factor in the etiology of cancer anywhere, as is illustrated in the development of scrotal cancer from the soot of chimney-sweeps and labial epithelioma from the Irishman's short clay pipe, a cicatrized area has been considered safely beyond the risk. Such an origin, however, must be far from frequent.

*Read before the Muskegon-Oceana County Medical Society at Muskegon, March 17, 1911, and before the Kent County Medical Society at Grand Rapids, April 26, 1911.

The ultimate cause of cancer is of course unknown. It probably is infective, parasitic or micro-organic. A very interesting and plausible theory in regard to the histology of the disease is advanced by Barrett, of Chicago. He expresses the conviction that the histological architecture of cancer is not cancer itself, but an organized effort on the part of Nature to limit or overcome the real disease, viz., some causative organic factor, as is evidently the case when Nature develops the gray tubercle after infection by the bacillus tuberculosis. As to the truth of this ingenious and most natural hypothesis, time will have a bearing.

A relatively small percentage of gastric carcinomata will be found in the cardiac portion, a still smaller percentage in the region between the cardia and the pylorus, and the balance either in the pylorus or close to it on the lesser curvature. This is a fortunate feature in a very somber matter, for a pylorectomy for obvious reasons is a much greater surgical and physiological desideratum than a gastrectomy both from the standpoint of the surgeon and that of the patient. Stomachic cancer usually develops in people between the ages of forty and sixty, although it has been observed on either side of these limits, the youngest age I ever saw mentioned being fifteen. It is said to occur about equally in the sexes.

I do not care to draw a picture of advanced cancer. You know that lamentably well; but what I do want to call to your attention, and call as forcibly as I can, is early diagnosis.

The location of the growth will of course largely determine the character of the symptomatology. Locations at the orifices will speedily give birth to pronounced symptoms, while such symptoms will be absent or certainly much less pronounced with locations between the orifices. Under the former hypothesis emaciation will precede pallor, while under the latter, hemoglobin may be diminished as much as seventy-five per cent., with consequently marked cachexia before noticeable emaciation appears.

The presence or absence of hydrochloric acid are features of an interesting nature. Neither is conclusive, for when the disease starts from an ulceration, hydrochloric acid, except late in the disease, will be present in normal or even increased amount, and in such event lactic acid fermentation will be absent. Reverse the etiology, and a reverse state of affairs as to hydrochloric acid and lactic acid fermentation will obtain. Pain as a symptom may be absent, although it usually is present at varying times and of varying character. Pain, however, may be due to pre- or non-cancerous conditions.

Dilatation and motor insufficiency, as evidenced by the retention of food beyond ordinary limits, and its late ejection by vomiting, are strong points in the diagnosis, as is also the ill-defined symptom-complex which passes as chronic dyspepsia.

The foregoing train of symptoms and signs demands, first, a careful gastric analysis after a test meal; second, an exploratory celiotomy if the former corroborate the suspicion.

As clinical evidence is always better than didactic, it will be well at this juncture to proceed to the discussion of an illustrative case; but before doing so permit me to amplify the title of the paper by recalling the nature of the two types of gastric surgery referred to, viz., first, gastrectomy, and, second, gastro-enterostomy, or more specifically, pylorectomy (partial gastrectomy) for carcinoma and posterior gastro-jejunostomy for non-malignant pyloric obstruction. One case of each the writer draws from his personal experience.

CASE I. CANCER OF THE PYLORUS. PYLORECTOMY

St. Mary's Hospital, Grand Rapids, Mich., Oct. 28, 1910.

S. S., male, age sixty-five, Grand Rapids, Michigan. Case one of supposed pyloric cancer because of emaciation for several months and late persistent vomiting. No tumor palpable. Patient seen by Dr. Burton R. Corbus, of Grand Rapids, in consultation, whose report as to his diagnostic movements and conclusions is here added:

"S. S., male, age sixty-five. First seen October 22, 1910, with Doctors Graves and Votey. No history of stomach symptoms previous to May, 1910, then began having indefinite distress in the stomach, with frequent attacks of acute pain, which he refers to the pit of the stomach. These were of a colicky nature, and of short duration. He does not think the attacks bore any relation to the time or character of food-intake. He did not vomit nor was the pain of sufficient severity to cause a physician to be called.

"Sometime in the early summer he first had vomiting attacks. When commenced, these attacks came on immediately after taking food, and a short time later noticed that the vomit contained food of the day previous. These vomiting attacks came on only occasionally. On the way to the Pacific coast, in the middle of October, and while on the train, had a most acute pain in the right epigastrium, of such severity and persistence that he was forced to leave the train in North Dakota and go to a hospital. The hospital doctor at this time made an analysis of the stomach contents and diagnosticated gastric cancer, at the same time advising the patient to return home.

"The patient as I saw him, one week later, was much emaciated, but not very markedly cachectic. Was not in pain. Complained of frequent vomiting of large quantities of dark, offensive fluid. A stomach tube was passed and a wash-basin of this offensive fluid was removed. The stomach was then dilated with gas; but in spite of the evident total obstruction, no palpable tumor could be determined and likewise no involvement of the liver. The examination of the stomach contents showed no hydrochloric acid, either free or combined, and a very definite test for occult blood.

"In the absence of a palpable tumor, and in the hope that an operation might give him some relief, such an operation was deemed advisable."

Operation was proposed and accepted. A central incision revealed pyloric orifice occupied by a cancerous growth the size of a hickory nut. No adhesions. A pylorectomy on the Mayo plan was immediately done, at least three inches of the stomach and a like amount of the duodenum being removed. By reason of the difference in visceral diameters, the section through the duodenum was made on the bias, that through the stomach being at right angles to its long axis. A direct union was done without plication or infolding of a portion of the gastric segment, by observing the precaution of taking longer stitches on the gastric than on the duodenal side, the diagonal section of the duodenum of course materially enlarging its circumferential measurement and thus to a great degree neutralizing the difference in the respective diameters. Some omentum containing a few slightly enlarged and indurated lymph glands also resected. No drainage. Convalescence was absolutely uneventful and patient never vomited after the operation, nor has he since then. No shock. Some slight hiccough occasionally. After four days, light broth was administered by mouth, and in three weeks the man was again in his home. At time of present writing, nearly four months post operation, he is the picture of health and from a veritable skeleton of about one hundred pounds' weight, his usual figure of one hundred sixty pounds has been attained.

And now we turn from the less hopeful side of this topic to that which exhibits a relatively cheerful aspect, viz., non-malignant surgical diseases of the stomach, or ulcer and benign obstruction of the pylorus. Not acute ulcer, not the ulcer which on the one hand tends toward more or less rapid cicatrization, and on the other toward more or less rapid death by perforative peritonitis or hemorrhage, instances of which you all have doubtless witnessed. Nor do I care particularly to discuss chronic ulcer except as it bears upon the type of case to be reported, viz., cicatricial pyloric stenosis.

Ulcer of the stomach, acute or chronic, is more frequent than supposed, and is more fatal than supposed, either directly, as mentioned above, or indirectly by the subsequent development of cancer. It occurs relatively earlier in life than does cancer, and seems to affect women more

than men. Speaking of chronic ulcer, we note, and we may not note, pain after ingestion of food; pain which if present is generally more localized and less diffuse than that of cancer; local tenderness greater than in cancer; hemorrhage in perhaps fifty per cent. of the cases, hemorrhage slight or marked, frequent or infrequent, trivial or fatal; symptoms of dyspepsia; hyperacidity (this is usually present); an occasional, ill-defined, more or less diffuse tumor; vomiting when the pyloric orifice has been narrowed, and finally motor insufficiency after gastric dilatation. Here, as in cancer, a well-formed suspicion demands medical investigation to be followed generally by an exploratory incision, for while seeing is not always believing, it usually is, and eyesight and finger-sight are of immense and timely assistance sometimes.

But the beautiful feature in this type of ailment as opposed to cancer is the fact that the patient can be offered not the mere possibility, but the probability, of a cure, the subsidence of his distressing symptoms, and years of future activity and usefulness as a restored member of society.

That such a declaration on the part of a practising art is freighted with a very world of comfort and consolation to suffering humanity, only those who have personally witnessed or experienced its fruition can realize.

CASE II. PYLORIC STENOSIS. POSTERIOR GASTRO-JEJUNOSTOMY

St. Mary's Hospital, Grand Rapids, Mich., Oct. 29, 1910.

A. G., male, age thirty-six, Muir, Mich. Case one of periodic long-continued vomiting, with some tenderness at the pit of stomach. History of a severe blow in the epigastrium, nine years previously, pain and finally vomiting supervening. Patient pallid, but quite young for cancer.

Writer's incision employed, stomach examined, and at pylorus an indurated state of affairs taken for cicatricial tissue was observed. Remoteness in time of epigastric blow militated against the theory of malignancy unless cancer was an added condition and a late development.

No enlarged glands discernible, as in the other case. Probability of benignancy and extreme difficulty in safely delivering the pylorus led writer to choose as the best procedure a posterior gastro-jejunostomy. This was accordingly done, and was much expedited by first locating the ligament of Treitz. No button used, the suturing plan of the Mayos being considered preferable. No drainage. No shock. For a few days vomiting continued and was quite distressing; but it soon ceased and has never recurred. To-day this man is doing his work as a blacksmith and is perfectly well. He left the hospital only nine days after operation.

In conclusion, you may ask how many cancer patients by the means outlined in this paper are actually saved, actually pass the three-year limit or the five-year or the ten-year. I do not know. Not very many, I can believe. Statistics are unreliable; but this I know and you know it also, that as we progress in the development of diagnostic and operative skill, and as people learn more and more to submit to the judgment of their medical and surgical advisers as regards operative exploration, the percentage of cures will grow. However, I do not look for the ultimate cure of cancer from the surgical field, notwithstanding the fact that surgeons up to the time of the present writing have done so much in the actual attempt at its elimination from the woes of men; but this long-looked-for, long-desired, even now, in the face of surgical endeavor and accomplishment, much needed blessing to mankind will eventually emerge from the medical side of our profession, and probably will appear in the shape of a hypodermatic injection. God speed the day!

THE PRACTICAL VALUE OF THE PSYCHOANALYTIC METHOD IN THE TREATMENT OF THE NEUROSES*

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Since psychotherapy has been accepted as an independent method of treatment of disease, physicians have, with more or less success, revealed the hidden mechanism of the unconscious mind of patients suffering from hysteria and other psychoneuroses and, through the analysis of their pathogenesis, have made their patients understand the various hindrances to normal mental and physical activity, and have thereby effected a healing influence.

The conception of the psychic trauma, its effects upon the unconscious, and the meaning of the resulting manifestations, the suppressed affectations and of "abreaction" became better known through the studies of Freud and Breuer. The psychic trauma was gradually transformed by Freud into the theory of sexual trauma and, according to this authority, a sexual experience in childhood, by the suppression of the affectation normally connected with it, has a harmful influence, because this affectation is forced out of the wide-awake consciousness and is ever ready on any occasion to present itself to the conscious mind as a distorted or irrelevant image (psychic symptom), or it is transformed into an abnormal bodily condition, the physical symptoms. We learn from Freud's investigations that the psychogenic symptoms are the outcome of emotional complexes of the imagination caused by a psychic trauma by the conversion of the excitant into abnormal bodily enervations and by transposing of the emotions to indifferent complexes of the imagination. The reason that the traumatic affectation is retained is that the elements of this affection are incompatible with the remainder of consciousness, consequently have not found sufficient expression and are therefore suppressed.

According to Freud the specific etiology of hysteria is to be found in sexual traumas of early childhood which must have existed as an actual irritation of the genital organs. However, these traumas are without specific effect in childhood; their real effect unfolds itself during puberty when, by the awakening of the sexual sense, old reminiscences are again revived and determine the symptoms of hysteria. The objection to this theory is not that we doubt the frequent occurrence of sexual traumas in childhood, but their exclusive pathogenic significance for normal children can not be accepted, nor does it explain why sexual wrongs should produce hysteria in some cases and have no bad effect in others. It leads us no further in this direction, and we are obliged to assume an "individual predisposition." The fact evident to every keen observer is that the emotions play a very important etiological role in the formation of hysteric symptoms, which is clearly shown by Freud's experiments, published as early as 1893, especially in the expression that hysteric persons suffer largely from emotional complexes of the imagination. While the formation of a theory explaining satisfactorily the origin

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of hysteria is perhaps still a thing of the distant future, the importance of Freud's investigations lies in the fact that it provides ways and means of solving the mechanism which produces hysteric symptoms.

To bring about a healing effect by the psychoanalytic method one must free the sexual trauma, must "abreact" it. The method of this procedure consists in requesting the patient to relate everything that comes to his mind irrespective of its sense or nonsense. From the related facts, peculiarities of expression, emotions, essentially also from dreams (Freud's Traumdeutung), one formulates a conception of the circumstances. In connection with this the association method perfected by Jung is of particular value. One gathers one hundred words, either from the story related by the patient, or independently. These words are known as stimulus words. Before proceeding with the analysis the patient should be comfortably seated or lying in the dorsal position on a lounge. In this way the patient remains free from all external influences and impressions. The object is to avoid all muscular exertion and distraction, thus allowing thorough concentration of attention on the patient's own psychic activities. The stimulus word is spoken by the examiner, and the patient is told to answer the first word suggested to him by the stimulus. The reaction time is measured on a 1-5 second chronometer. After the one hundred words are gone through, the process is repeated without measuring the reaction time. It is soon found that not all stimulus words are reacted to with the same smoothness and facility. There may be a prolonged reaction time, a lack of or faulty reaction, or a failure of reproduction. All these are complex indicators; they show that the stimulus word has touched a complex and thus retarded or totally inhibited the reaction. Jung showed that all apparently adventitious mistakes in the association experiment have a definite reason and that, contrary to the belief of the test person, his answers are not arbitrary, but usually betray his most intimate secrets. The value of this experiment is quite obvious, whereas the patient may refuse to enter into conversation, he is quite willing to answer the first word which the stimulus evokes, as he is totally unaware of its importance, and, if the association is correctly interpreted by the examiner, the resistance is invariably broken and the patient readily reveals other associations. To be sure, this is not as simple as it seems; above all, it requires much experience and a thorough knowledge of normal as well as individual psychology. The following are some of the associations which revealed the emotional complex in a patient suffering from astasia-abasia and from a patient afflicted with psychasthenia.

Stimulus word	Reaction	Time	Reproduction
1. To jump	barn	15	positive
2. To threaten	kill	20	positive

Reaction 1. To jump—barn—refers to an instance occurring at the age of six. The patient explained that she frequently played with the neighbor's boy somewhat older than she, jumping from the hay in the barn. This reaction provoked some emotion, as is shown by the reaction time, and further explanation revealed the nature of the sexual trauma at this early age. Reaction Number 1 reached the complex in the case of astasia-abasia. The jumping from the hay involved largely the lower extremities, which undoubtedly caused some fatigue of the legs. This being immediately associated with the sexual trauma, formed a model for the hysterical symptom, and explains the emotional complex hidden behind the manifestation of weakness in the lower extremities. Reaction 2 was the complex indicator in the other patient, who, after expressing the

word "kill," gave evidence of fear and became excited, stating: "I see a man standing before me holding a revolver in one hand and a lantern in the other. The same vision I have seen so often in my dreams." When asked if this image resembled any one she knew, she stated: "His features are those of my brother in-law; the more I look at him, the more I am convinced that it is he." She explained a relationship with her brother-in-law when she was about nine or ten years old resulting in a sexual trauma. She was threatened to be killed, if she ever revealed the secret. As she stated, she had many times before seen this mental picture in her dreams, but never recognized its significance or its connection with the psychic trauma. Reaction number 2 revealed the complex in the case of psychasthenia in which the chief symptoms were agoraphobia, "night terrors," and fear of being shot. The agoraphobia was probably dependent upon the fear of being shot, and was not caused by a separate complex. The "night terrors" were due to the dream, a distorted psychic presentation of the causative factor of the sexual trauma and the emotional complex. Undoubtedly, some time after reaching the age of discretion an actual psychic process occurred involving the thoughts of how narrowly she had escaped of being robbed of her virtue, and, as she expressed it, "how awful it would have been if this had actually happened." This explains the vision of the burglar in whom she eventually recognized the individual, the causative factor. The threat to be killed, if she revealed the secret of the sexual trauma, was the basis for the hallucination which formed the emotional complex in the production of the symptoms. Both of these patients were promptly relieved of their ills after "abreaction" of the suppressed.

In dealing with Freud's psychoanalysis we are impressed with the idea that many things might be suggested to the patient and that the reactions might not be reliable, especially in cases of hysteria, where untruthfulness might be either conscious or unconscious. By telling the patient that his illness has its root in a definite sexual experience, one gives out an exceedingly strong autosuggestive weapon, and the patient believes he knows where his bodily or mental symptoms originate. One has also made him understand that his knowledge is the healing factor, and that he can at any time raise himself above these symptoms by this convincing suggestion. This being the case, the therapeutic effect does not necessarily depend upon the freeing of suppressed imaginations, but there exists the same possibility for the assumption that the effect of the method rests in its ability to combine the convincing suggestion of being cured, which undoubtedly has an exceedingly soothing, even healing influence, upon many individuals belonging to this class. It should be our determined purpose to avoid direct suggestion or reveal our assumption of the situation surrounding our patients. In the practical application of the psychoanalytic method much has been changed. Everything that is suggestive is omitted. The patients are no longer led by the physician, but the greatest play is given to their ideas. The writer has made it a part of the technique to ask the patient to write the thoughts as they occur successively and spontaneously after giving the patient a starting point at the earliest possible time of life. This can be brought about by reminding the individual of the first school days or the toys which amused the patient during early childhood. This procedure saves a great deal of time for the physician and avoids any suggestion which he might be obliged to make, if the venting of thoughts occurred in his presence. It may be necessary, however, in going over the record to direct the patient's attention

to the connections between events. I have succeeded in doing this in an indirect way in the majority of cases, through Jung's association method, as was shown in the cases presented in this paper.

There are still so many important objections to Freud's psychoanalysis, that I can not recommend it as a universal method, and it is a question whether other methods requiring less expenditure of time and energy have not effected equally favorable results in the majority of cases. It may, however, be resourceful in the obstinate cases, where other methods have failed. Patients selected for this form of treatment must be fairly intelligent, as it is not only necessary to find the causative factor (psychic trauma), but also to associate it with the presenting symptoms to form a complete complex which must be comprehensible to the patient. We must succeed in bringing into the patient's consciousness all false connections of the morbid fancies produced by complexes and thereby solve them, so that the patient gradually gets an insight into the form of disturbance, takes an objective view of the complexes, and sees things as they are and not as they seem. This, of course, changes the entire thinking and feeling of the patient, so that the personality will gradually free itself from the compulsion of the complexes and take an independent position in relation to them. This becomes very apparent, and is expressed very clearly in the patient's actions, and finally becomes evident in the therapeutic results. In tracing the psychic trauma one invariably comes to sexual experiences of childhood, which is not the result of suggestion when the technique of this method is correct. This does not direct the attention to the sexual region nor call forth sexual ideas, as is suggested by some and offered as a serious objection to this method. The examiner's explanation of the emotional complex is not offered until the sexual trauma is voluntarily revealed by the patient. This is so conspicuous in the results of this method of treatment that one is led to believe that the sexual is born with us and begins to manifest itself in infancy. In the results of the psychoanalytic method of treatment in the cases related in this paper, we are again reminded of the facts that every symptom was the expression of a former mental occurrence, that the repression of the unconscious is at the basis of the dream as well as the psychic and physical symptoms, that the dream is a perfect psychological mechanism, and is the product of the unconscious, and therefore is the easiest access to the exploration of the psychogenesis of the neurotic.

In conclusion, let me say that this method of treatment, as other psychotherapeutic measures, has its individual characteristics, and success is dependent upon the selection of suitable cases. Whoever has the tact and a clear conception of individual psychology, will very quickly determine with what psychotherapeutic measure he can reach his goal in the safest way.

The next Annual Meeting of the Michigan State Medical Society will be held in Detroit September 27-28, 1911.

SOME PROBLEMS IN INFANT MORTALITY*

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It is estimated that somewhere in the civilized world a baby dies every ten seconds. Three million, fifty-three thousand, six hundred, every year. One-half of this number is preventable. The reduction of this excessive infant mortality is a big task—bigger than the tuberculosis problem, if we consider the number of lives involved.

All big social problems are solved by education. The mother has most to do with the child's health, and it is her ignorance that is the chief cause of infant mortality. The main object, then, is to develop an intelligent motherhood.

The state, the philanthropist and the medical profession must co-operate to attain this end. The medical profession's task is the most important. Let us consider, then, this task.

In the first place, the medical profession must pay more attention to vital statistics in order to obtain more exact knowledge of existing conditions. The Bureau of U. S. Census says:

> "Not a single state, not even a single city, in the United States, possesses complete registration of births."

The State of Michigan pays fifty cents for every birth certificate if sent to the Registrar within two weeks of the date of the birth; yet in Detroit it is the middle of March before the reports for January are in. Very frequently an infant is buried several days before the birth certificate is filed. Measures for preventing such deaths are obviously impossible. It surely isn't asking much of doctors and midwives to make out birth certificates at once—especially as these certificates give us very important information. Then, too, doctors often use the words "still born" and "premature" synonymously, yet there is a vital distinction. The causes of death as given in the death certificates are often misleading and hard to classify. For example: a rising young obstetrician had a very difficult breech presentation. The baby died shortly after birth and the death certificate read: "Congenital atelectasis." This really was an obstetrical accident—not a congenital defect. This sounds like splitting hairs, but it is important, because about one-third of the deaths of infants under one year of age occurs in the first two weeks of life, and we must know whether to charge these deaths against midwifery or congenital conditions.

Another important problem for the medical profession is the midwives. We have enough laws governing them, but our large foreign population makes it hard to enforce the laws. Midwives must be made to register and take out licenses. This is the first step toward controlling them. It is said in New York City that many midwives who have qualified in European countries come here with sterilizing outfits, but soon stop using them because it is not required. In Detroit, the midwives report about one-fifth the total birth certificates. There are about three hundred deaths a year of infants under one year of age. About one-eighth of these are midwife

*Read before the Kent County Medical Society April 12, 1911.

cases. It would be instructive to know how many of the babies dying under fourteen days of age are midwife cases. The Board of Health nurses visited last summer 498 babies, all reported by midwives, and all under fourteen days of age. Only 15 were bottle-fed. On the other hand, 28 of these babies had ophthalmia neonatorum and were neglected. We must know more about our midwives and then try to educate them.

The third great task for the medical profession is the better care of the expectant mother. Between 50 and 60 babies die under two weeks of age every month—over 600 a year. One-fifth of them are premature, one-fifth of them are congenitally defective, and one-fifth die because of difficult labor. Surely a big reduction here could be effected if expectant mothers received more care. Of course, industrial conditions which force pregnant women to work, and poverty which keeps them undernourished, are in a large measure responsible for this mortality,—yet the medical profession can help very much by taking more interest in the pregnant woman, nor must we blame social conditions until we ourselves have done our best.

If it is necessary to look after the expectant mothers, it is more necessary to look after the new mothers. Every month about 80 babies under one month of age die. One-fourth of this number die of infantile atrophy, and one-eighth die of convulsions. Both are preventable. Here is where the doctor can practise preventative medicine and be a great educator. The chief retarding influence to-day in the prevention of infant mortality is ignorance of the truth on the part of the masses. How to get the facts to them so that they may contribute to their own emancipation should be the increasing concern of all physicians. A little interest, a little "horse sense," and a convincing talk with the mother would help a great deal. The mother's lying-in period, her breasts, nipples, and milk are worthy of very careful consideration. The infant's eyes, the skin and the cord, nourishment, fresh air and digestion cannot be too carefully considered, yet I regret to say that these things are left to a so-called experienced nurse, who puts a raisin on the cord, squirts breast milk into a suppurating eye, keeps the baby under the bedclothes and gives teas and dreadful preparations of cooked crackers and milk, etc. The wonder is that any of these babies live.

Physicians must insist upon taking full charge of these things. At present, the food circulars and the neighbors stand much higher than the doctor who is called in when conditions are hopeless, and signs the death certificate.

If there is one thing the medical profession is absolutely agreed upon, it is the fact that breast milk is the best food for babies. Why, then, one naturally asks, in the name of common sense, do not more women nurse theirs? It almost seems as though the doctor did not care. He cannot be very interested or there certainly would be more breast feeding. Poverty, social and industrial conditions, and modern civilization are blamed for this so-called inability of mothers to nurse their babies. Admitting all this, there are twice as many bottle-fed babies in the world as there ought to be.

The Detroit Board of Health started, over a year ago, a mother's clinic. Its object is to keep well babies well, by educating young mothers.

A nurse was generously donated by the District Nursing Society and a public-spirited woman at first supplied milk when necessary. During the summer months, five school nurses were pressed into service. A room in the Board of Health building was fitted out with a table, a stretcher for examining the babies, and scales for weigh-

ing them; a modest outfit for modifying milk, and a refrigerator.

The work of the clinic is two-fold,—the instruction of mothers in the care of their babies, and house-to-house visits of the nurses. Sick and well babies of all ages are received at the clinic. A history is taken, advice and instruction given. Some babies are sent to other clinics for operative treatment; some are sent to hospitals for medical treatment. Mothers are urged to bring their babies once a week to be weighed. Mothers wishing to wean their babies are urged not to do so. Some mothers think their milk is insufficient, but advice on their diet and a weekly gain in weight quickly proves the contrary. Some mothers have to go out to work during the day and their babies are left at day nurseries. They are given a card with feeding directions for the person in charge. In one instance, one of the day nurseries would not receive babies unless the mothers first came to our clinic for instruction. We give milk only when absolutely necessary, because we have found that it tempted many women to wean their babies. We finally stopped dispensing milk altogether. Now, when absolutely necessary, we refer mothers to the Milk Fund—a Detroit Charity—for milk.

All babies were followed up by the nurses to see that our instructions were obeyed. During the year we had 35 breast-fed babies with two deaths due to infantile atrophy. One death was due to the mother's refusal to follow advice, the other was due to the mother's sudden death and the consequent neglect of the infant. Nine babies were on a mixed diet with no deaths. Forty-six babies were on artificial food. Eight of these died of infantile atrophy. Thirty-two babies were over one year of age. No deaths.

In some respects, the work was discouraging. It was hard to get a mother to bring her well baby to the clinic—she was too busy and could not see the object of it. It was hard, often, to persuade a mother to nurse her baby when she had made up her mind to wean it. Many mothers went from clinic to clinic throughout the city, taking nobody's advice. The social conditions were often impossible to help, although we had the co-operation of the Poor Commission, the Associated Charities and the Milk Fund Association. On the other hand, we made a start in the right direction. We helped a good many babies by giving the mothers direct practical instruction, and this is sure to have its influence on future babies. We modified very little milk, as we preferred to have the nurses show the mother how to mix and care for the milk in her own home. We found that the care of the milk at home was very important, and we became convinced that it was rank extravagance to give expensive modified milk to these mothers unless the nurses watched them very closely. Another point which is very important is that many mothers who did not have enough milk could be helped out with supplemental feedings of cow's milk. This gave the baby the tremendous advantage of having breast milk to fall back on in case of acute illness. We also found that without nurses the work of the clinic was hopeless. They are trained nurses and investigators in one. They showed these mothers how to carry out the doctor's orders, and reported to the doctors all difficulties encountered in carrying out those orders.

These nurses also visited the midwife cases. Each nurse was given addresses taken from birth certificates and called at the home. Four hundred and ninety-eight babies (all under fourteen days of age) were seen in this way. The visit was an investigation, but at the same time advice and treatment were given, and the child was kept under observation as long as

seemed necessary. The mothers were urged to bring their babies to the clinic. Twenty-eight cases of ophthalmia neonatorum were found and persistently followed up until cured. If a doctor had been called to see the baby, the nurse tried to follow out his orders.

We found from this work that the majority of babies start out with breast milk—461 out of 498—and we felt sure that many of these women continued to nurse their babies because of the encouragement given them by the nurses. We were also gathering statistics which will certainly be of value in the fight against preventable infant mortality.

Another big problem the medical profession must face, and solve, if possible, is the prevention of infants' deaths in lying-in-hospitals and institutions. Last year, one-eighth of the total infants' deaths in Detroit occurred in these institutions. There are three principal causes for this, "institutionalism," poverty, and bottle feeding. It is a recognized fact that infants do badly in institutions, even when the feeding is most scientific and the care good. In New York now, the Speedwell Society is attempting to help out by placing institution babies in private homes. A nurse, of course, supervises the case. It is gradually dawning upon physicians that a hospital is no place for a baby except when acutely ill.

All these institutions do a large amount of charity. This, of course, is expensive. Economy is necessarily practised, and the result is that there are not enough nurses to give these infants the sort of care they need. The boarding-out plan is not so expensive, as there is no plant to keep up—nothing but a supervising nurse and the salary paid the foster-mother.

The bottle feeding of institution babies is their great weakness. It cannot be done successfully. It is very expensive, and it causes a great many deaths every year. Most of these institution babies are illegitimate. The expectant mother goes to the hospital for protection and help. If she has enough money, she pays for her confinement and $50 for the adoption fee, and never sees the child again. The child is put on the bottle at once, leads a life of gradual starvation and atrophy, and dies of some acute illness, generally of gastro-intestinal origin. Occasionally an infant is adopted into a well-to-do family. If not (and he is alive when he is two years of age) he is sent to an orphan asylum.

The mother who is so unfortunate as to be unable to pay, nurses her baby until she works out her confinement and adoption fees. Curiously enough, these women generally keep their babies.

There are two institutions in Detroit of about the same size with the same daily census. One does not insist upon breast feeding, and has an average monthly mortality of seven babies. The other absolutely insists upon breast feeding during the mother's stay in the institution, and has an average monthly mortality of less than one. It is often said in answer to these arguments that such babies are illegitimate and are better off dead. If this be true, we should at least devise some more human way of killing them.

The last problem is milk. Cool, clean milk is needed. The Board of Health's efforts to procure this are bound to succeed eventually. The problem is so big the writer does not feel competent even to state the situation.

Milk costing fifteen cents a quart is out of the question for poor people. Cheaper milk must be used. No matter what grade of milk is obtainable, however, the handling of it in the home, after all, is the vital thing. This must be taught to every mother, and then its effect on infant mortality will be startling.

The foregoing is a brief review of the prob-

lems confronting the medical profession in its task of reducing the excessive infant mortality in the City of Detroit. All big cities will show the same state of affairs. The doctors cannot do it alone—they must have the co-operation of the State and the philanthropist. The world looks to us for knowledge concerning this question, and we must do our best.

First, we must look to our vital statistics, so that we may accurately state the conditions.

Second, we must know more about our midwives, so as to educate them to help us.

Third, the city's milk supply must be clean and cool, and its proper handling in the home thoroughly understood.

Fourth, the loss of infant life in institutions must be thoroughly investigated and constantly watched.

Fifth, we must pay more attention to the young and expectant mother in order to reduce the appalling loss of life at the very start, and

Lastly, doctors must take a more active interest in the baby.

406 Washington Arcade.

SURGICAL SUGGESTIONS

(*American Journal of Surgery.*)

Sudden anuria may be the first symptom of a carcinoma of the cervix in an apparently healthy woman.

In the presence of a smooth, hard, fixed and often tender abdominal tumor giving no characteristic symptoms, it is worth while to think of an ectopic or fused kidney—especially if the mass be in the median line or near the pelvis.

Courvoisier's law is rarely broken—enlargement of the gall bladder with pronounced jaundice means neoplasm.

When removing stones from the gall ducts don't neglect to explore the hepaticus—with a probe or, better, a narrow blunt spoon.

Rigidity of the muscles in the flank on deep palpation is as valuable a diagnostic sign as is rigidity of the anterior abdominal muscles. In the presence of a urinary disturbance (e. g., anuria, pyuria, hematuria) unilateral tenderness and rigidity in the loin are presumptive evidence of affection of the kidney on that side.

Callus about a perforating ulcer of the foot is a trophic disturbance not dependent on pressure for its cause.

Perforating ulcers and localized gangrenous processes in one or both feet, without other obvious cause (e. g. tabes, diabetes, obliteration of bloodvessels, frost-bite) indicate a careful examination of the spine for an evident or concealed spina bifida.

To perform gastrostomy upon a patient with esophageal obstruction, who can painlessly swallow fluids, is a needless, not to say, a cruel, operation —except as a preliminary to a more radical procedure.

An injection of bismuth paste may definitively close a troublesome empyema sinus.

Persistent tachycardia should indicate a search for other evidences of hyperthyroidism. A goiter is not essential to the diagnosis.

The X-ray shadow of a deposit in the subacromial bursa may easily be mistaken, by the inexperienced, for that of a fracture of the tuberosity of the humerus.

In an injury to the elbow gentle palpation and study of the relations of the bony landmarks—the olecranon, the condyles, the head of the radius —is very often quite sufficient to establish a diagnosis without painful manipulation.

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(Ex officio)

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Wilfrid Haughey, A. M., M. D., Editor, 24 West Main Street, Battle Creek, Michigan. The Society does not hold itself responsible for opinions expressed in original papers, discussions or communications.

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AUGUST

EDITORIAL

LACK OF SUPPORT

COLLECTIONS of medical men in societies will discuss in heated argument and pass resolutions against abuses which they then proceed to forget most promptly, or to ignore as though forgotten. At the meeting of the American Medical Association in Portland, 1905, some resolutions were introduced into the House of Delegates by the representative from Michigan, which State Medical Society had previously adopted these resolutions. They denounced the proprietary medicine frauds, and called upon the Association to "do something" to stop the then existing condition of things. It was at this same time that the Council on Pharmacy and Chemistry of the American Medical Association had its beginning. One would naturally suppose that, having considered the matter, passed resolutions about it, and then officially called upon the American Medical Association to "do something" to clean up the proprietary mess, Michigan would be one of the very strongest states in its support of the Council on Pharmacy and Chemistry, and of the campaign for decency in medical journal advertising. But alas for our hopes. Michigan is willing to pass resolutions; that costs nothing. But Michigan does not seem willing to exclude or to do without advertising matter of an objectionable sort. The last number of the JOURNAL published by the Michigan State Medical Society (June) contains the advertisements of the following choice specimens: bovinine, glycothymoline, sulfothen, thyosal (with some wonderful properties!), Fellows' hypophosphites, ergoapiol, salhepatica, and our old friend, "Daniel's passiflora." The dignified and ancient-of-years Medical Society of New Jersey permits the advertisement of glycothymoline in its official publication, as does Kansas Medical Society—and Kansas also allows its *Journal* to print the advertisements of antiphlogistine and katharmon. South Carolina permits its official publication to advertise these nostrums: Gray's glycerine tonic, glycothymoline, antiphlogistine and gastrogen. Minnesota goes still further in its aid to the nostrum-maker, and advertises apioline, glycothymoline, ergoapiol, antiphlogistine, echitone, peptomangan, salhepatica and colchisal. Oklahoma varies the monotony by advertising neurosine, Tyree's powder, and germiletum. Ohio has ergoapiol, gylcothymoline, Grey's tonic, Fellows' hypophosphites and peptomangan. Needless to say, none of these preparations has been approved by the Council on Pharmacy and Chemistry of the A. M. A.—*Editorial California State Journal of Medicine, July*, 1911.

This is all very true, friend Jones, and more is the pity. Would that our columns were as clean as the proverbial snow. However, our annual bath will come soon.

But why did you not mention coca-cola? Was it because you so recently carried the same advertisement? The July number of the *California State Journal of Medicine*, the number containing the above editorial, contains, *mirabile dictu*, the following not accepted, so far as we can find, by the Council on Pharmacy and Chemistry: typhoid prophylactic, malt nutrine, Garrod Spa lithia water. The May number contained: laibose, mer-cac-o-dol, neurasthenia compound (no formula), R. R. Rogers Nauheim Bath, the label on the box reading, "For the treatment of heart disease (organic and functional), diseases of the circulation, gout, and rheumatism, neurasthenia, insomnia, and other nervous diseases." (See rule 4, Council on Pharmacy and Chemistry.)

In a second editorial, Editor Jones says that the reason for this lack of consistency must be ignorance, for no great

society would accept the dirty dollars of the nostrum-maker.

Attempts to limit our space as outlined by the Council on Pharmacy and Chemistry have been in a measure disappointments, as witness the following letter from a manufacturer of Council accepted specialties:

Cincinnati, Ohio, Oct. 3, 1910.

The Michigan State Medical Society,
WILFRID HAUGHEY, A. M., M. D.,
Battle Creek, Michigan.

Gentlemen:—Thank you very much for your kind offer of the 24th, and in reply we regret that we cannot see our way clear to take any more advertisements in journals whose affiliations with the American Medical Association is so close as to warrant them in declining to accept advertisements of those preparations which do not receive the sanction of the Council on Pharmacy and Chemistry. Do not misunderstand our attitude in this respect. We have no contention with our good friends in Chicago on the general principles involved in this action, but we think they are so stringent that it makes it impossible for us to vary our advertising with sufficient freedom to make it profitable. With best wishes, we are,

Courteously yours,
THE WM. S. MERRILL CHEMICAL COMPANY.

Now for the remedy. That is simple. So far as possible the extra expenses of the State Society, such as reporting discussions and furnishing reprints to authors of original articles, might be dispensed with. That alone would help but little. It is in the power of each and every member to help in this campaign of cleaning up advertising in the Medical Journals. It is an admitted fact that the JOURNAL must have advertising. Our members also must have the supplies advertised. It would cost no more for our members to buy supplies of firms advertising in our JOURNAL, and would be no less convenient. If our members generally would do this, and would let the firms know that they were doing it as a matter of reciprocity, our columns would soon be filled with highly desirable advertisements, to the exclusion of all the others; the JOURNAL would be placed upon a more firm foundation, upon a paying basis, which it never has enjoyed thus far.

The cost to the individual member to help in this manner would be nil. There would be no question of "boycot," as was charged against the editor some time ago, for each and every member is one of the Company—he is a shareholder, and as such should feel no qualms in patronizing those who patronize him.

By standing together in such a way, and insisting that, so long as those selling to us advertise, we are entitled to a share of their appropriation, we will be in a position independent, but without such unanimous support we will have to struggle along much as in the past.

Many of our members throughout the State are already supporting the JOURNAL in this manner. There are many activities that the Society should engage in for the benefit of its members, but at present the dues have to go to the support of the JOURNAL.

VALUE OF MEDICAL SOCIETIES

LAST month we spoke of the value of the medical organization to the young graduate. The following list of rules will show that there is a value in membership in the recognized medical organization, not only to the young medical graduate, but to the older man and to the employing public.

RULES

For Determining the Qualifications of Candidates Applying for Positions as Medical Officers for the ——— Railway.

Whereas, a uniform basis of action being manifestly necessary for the Board of Censors to adopt, in determining the qualifications and fitness of applicants to be considered for appointment or reappointment on the Surgical Staff of the ——— Railway, be it hereby resolved that we adopt the following regulations as rules o

procedure in making recommendations on candidates in question:

First: Any one eligible for favorable action by this Board of Censors must be a member of the American Medical Association.

Second: He must be recognized as a representative member of the profession in his locality, of undoubted integrity, ability and sobriety.

Third: Only male members of the medical profession shall be eligible to consideration.

Fourth: The primary qualifications for membership in the———Railway Surgical Association shall be duly established membership in the medical profession.

Board of Censors.

These rules were received by the State Secretary, accompanied by a letter reading as follows:

Dr. Wilfrid Haughey, Secretary,
Michigan State Medical Society,
Battle Creek, Michigan.

Dear Doctor:—We are quite interested in our surgeons in regard to affiliating themselves with their County, State and American Medical Association, as the enclosed circular will reveal. Will you kindly let me know whether the following have paid their dues for their County and State Societies for 1911.

(Names omitted.—Editor.)

Thanking you very much for your trouble, I remain,

Very Respectfully,

One railroad at least has taken a logical step in determining, and being assured, that its surgeons are and will be in position, at least, to keep abreast of the advances of medical learning. Obviously the man who is an active member of not only his County and State Medical Societies, but of the American Medical Association, will have some progress in him,—he will not be an old fogy, or a non-progressive who would fail to reflect credit upon the railroad which employs him.

Railroads realize that they must give their injured employees and patrons the best of medical and surgical attention in case of need, and to this end are carefully considering the merits of their appointees.

The moral to the medical man, especially the one desiring appointment as railway surgeon, is obvious. If one railroad has decided to apply the test of membership in the organized medical profession, why may not another soon follow; and if railroads, why not other great employers of labor, who must give their employees surgical attention? And really what better test could a corporation retaining the services of surgeons apply?

THE NEW "CERTIFIED MILK" LAW

THE State Medical Society has at length succeeded, through the efforts of a special legislative committee, and after many difficulties, in procuring the passage of a law defining the term "certified milk" and protecting it from abuse by unscrupulous milk dealers. In as much as this law differs radically from those enacted for the same general purpose in other states, it may be well to review briefly the history of "certified milk."

This term was introduced by Dr. Coit, of New Jersey, to describe milk produced under the supervision of medical milk commissions appointed by county medical societies, and certified to by them as attaining an especial standard of cleanliness and purity which rendered it desirable for use in baby feeding and in the sick-room. The name soon came to be understood by the laity as denoting clean milk, and dealers took to selling, as "certified," milk which in fact was certified to by no one but themselves. It was necessary that the name should be protected from such misuse, and Dr. Coit's first idea was to copyright it. This did not prove satisfactory, however, and the enactment of protective legislation was secured in a number of states where medical milk commissions were operating. The laws were very much alike in their main features, giving sole authority to certify to milk either to medical milk commissioners appointed by county medical societies, as

in New York, or to voluntary associations of physicians incorporating themselves as milk commissioners under the supervision of the State Board of Health, as in New Jersey. The New Jersey law was worked out with great care by Dr. Coit himself, and is held up as a model for other states to copy by the American Association of Medical Milk Commissions,—an organization whose rapid growth during the few years of its existence is an encouraging sign of a widespread awakening to the need of reliably clean milk.

Times have changed, however, since the inception of the certified milk movement. Municipal health authorities, formerly concerned almost wholly with the restriction of contagion, nowadays include in the scope of their activities everything which tends to the diminution of disease and the safeguarding of health. Ten years ago few such officials would have cared to bother with so comparatively special a subject as milk for baby feeding, or would have had the equipment to look after it, and it was inevitable that whatever was done should be through the efforts of interested and philanthropic physicians. To-day the broad-minded and up-to-date health officer (and their number grows rapidly) would look upon this work as falling naturally within his field.

When, therefore, it came to draughting a law for Michigan, it seemed wise to some of those interested to recognize this tendency to a broadening of the functions of the public health authorities by putting the appointment of milk commissions in their hands, and for another and important reason besides this, namely: that it seemed more sound legally to put such powers as are given these commissions in the hands of duly constituted public officials than in those of private corporations such as are the milk commissions of most other states. This idea was much opposed by Dr. Coit and the American Association of Medical Milk Commissions, who were anxious for reasons perhaps partly sentimental, to restrict milk certification to commissions appointed by medical societies. After considerable deliberation the committee finally decided to recommend a law modeled on the New Jersey statute—largely in order to keep the certified milk legislation uniform throughout the country, and thereby give the term a more definite meaning. The bill met with a good deal of opposition from influential sources, and was finally amended, with the consent of most of the committee, so as to give the appointment of the commissions to the public health officials, and in this form passed. In the meantime New Hampshire had enacted a very similar law, so we are not alone in our departure from precedent.

As it stands, the law provides for milk commissions consisting of five physicians, to be appointed by the local health board if so constituted as to have in its membership two or more physicians; otherwise by the state board of health. The local health officer and the secretary of the state board are ex-officio members. The members are to receive no pecuniary recompense in any way for their services. They may prescribe standards for dairies and for milk which is to be certified to by them, which must not, however, be lower than the standards of the A.A. M. M. C., nor than those which may be set by the State Board of Health. Their work is subject to scrutiny by the local and state boards. They may certify the milk produced in accordance with their regulations, and such milk is to be distinguished by their seal. No person is allowed to sell or offer for sale as certified milk any milk not certified by a milk commission of the county in which it is offered for sale, under penalty of $100 for each offence or imprisonment for ninety days.

The only conspicuous departure from

precedent in this law is the substitution of the local health board or the state board for the county medical society as the appointing power. It may be, as some seem to fear, that we have not yet reached the point where our boards of health are to be trusted to interest themselves in this and do it wisely, but to the writer it seems a step in the right direction. Surely the law will put a stop to a good deal of deception, whether wilfully fraudulent, or merely ignorant, in the sale of "certified" milk that is not certified, and probably could not be.

T. B. Cooley.

MEDICAL MILK COMMISSIONS

THE law provides that there shall be only one milk commission in any city, township or village. This commission must certify to all milk which may be sold in that city, village or township as "certified milk." The appointing power rests with the local Board of Health, if so constituted as to contain two or more physicians, otherwise with the State Board of Health.

No class of people other than physicians would undertake a work of the kind entailed by these milk commissions and with the same object in view, without hope of profit. But let us take care that the physicians who are appointed shall be worthy. A milk commission, once appointed, could easily defeat its own purpose in obvious ways.

It would seem that there is scarcely a more important movement for each of our county medical societies to engage in than the securing of honorable and active milk commissions wherever possible. Members of the local medical society placed on such commissions would reflect credit on the public service as well as the society.

If the county medical societies do not take the lead in such philanthropic movements, we cannot blame the public for pinning its faith to every ilk and pathy that come along.

Let us do something now that we can.

IN MEMORIAM

C. P. Donelson, M. D., a graduate of the University of Michigan, 1872, a member of the Muskegon-Oceana County and Michigan State Medical Societies, died July 5, as a result of infection through a wound caused by the extraction of a tooth.

COUNTY SOCIETY NEWS

CALHOUN

The second quarterly meeting of the Calhoun County Medical Society for 1911 was held in Ceresco, June 6th, at the residence of Dr. Gubbins. As is customary for this meeting, a good audience was present.

The program was an exchange with the Kalamazoo Academy, Drs. A. W. Crane and F. Y. Cronk, of Kalamazoo, being guests of honor.

Dr. Crane gave a paper on "Vaccine Therapy," handled his subject in a masterly fashion, and showed a scholarly insight into the subject.

Dr. Cronk pleaded for the early recognition of Thyroidism, and urged early operative interference. As would be expected, his paper provoked active discussion upon the part of the members, Dr. Crane taking the stand of an Internist against operative interference. (See page 371.)

Four applications for membership were referred to the Board of Directors for consideration.

At the close of the meeting, Dr. Gubbins, in his usual genial and hospitable manner, invited the Society to an open-air luncheon.

The September meeting will be held in Marshall.

A. S. Kimball, *Secretary.*

GENESEE

Resolved, by the Genesee County Medical Society: That in the death of Dr. James B. Rice, of Flint, it has lost a worthy member, a man who had but entered the field of his profession, and through progressive work was winning an enviable reputation, During his thirteen years of practice he had allied himself with the County and State Societies. His genial manner had won for him many friends and a substantial practice.

Further, the Society extends to his daughter and family its deep sympathy and shares their sorrow.

Be it further resolved that a copy of these resolutions be sent to the family and another be placed among the records of the Society.

Committee for the Society:

JOHN C. BENSON,
FREDERICK B. MINER.

MUSKEGON-OCEANA

Regular meeting of the Muskegon-Oceana County Medical Society was held at the office of Dr. V. A. Chapman, of Muskegon, Friday afternoon at 4 o'clock, May 26, 1911.

Members present, Drs. Deo. S. Williams, W. A. Campbell, L. W. Keys, Jacob Oosting, P. A. Quick, I. M. J. Hotvedt, J. H. Nicholson, W. L. Griffin, J. F. Denslow, L. N. Eames, W. P. Gamber, J. T. Cramer, C. P. Donelson, F. B. Marshall, and V. A. Chapman.

The minutes of the last meeting were read and approved as read.

Dr. Keyes presented a clinical case of supposed pellagra, and requested diagnosis and treatment. The case was examined by all of those present, resulting in a tie vote as to whether the case was one of pellagra or something else.

Dr. Keyes read a brief paper concerning the disease pellagra, and cited the history of the clinical case.

Dr. Donelson as chairman of the committee appointed to investigate the illegal practice of medicine by Raymond Wilson, made a fine report and the committee was discharged.

A communication was read from Dr. Dodge concerning the district meeting. After some discussion, Dr. Denslow moved and Dr. Campbell seconded that the matter be laid upon the table. Carried.

Meeting adjourned.

V. A. CHAPMAN, *Secretary*,

Regular meeting of the Muskegon-Oceana County Medical Society was held at Hart, Friday afternoon, June 23, 1911, with Dr. J. H. Nicholson and Dr. J. D. Buskirk.

Members present: Drs. J. H. Nicholson, J. D. Buskirk, J. M. VanderVen, W. P. Gamber, F. B. Marshall, R. G. Olson, W. A. Campbell, G. F. Lamb, J. T. Cramer, P. A. Quick, J. M. Stone, C. P. Donelson, I. M. J. Hotvedt, W. L. Griffin, Jacob Oosting, L. P. Munger, P. J. Sullivan, B. F. Black, Geo. S. Williams and V. A. Chapman. Dr. C. B. Burr, of Flint, as essayist and guest.

Minutes of last meeting read and approved as read.

The application of Dr. Alfred Brocke, of Muskegon, was presented. Dr. Olson moved, seconded by Dr. Sullivan, that the rules be suspended and ballot be taken by a rising vote. Carried. The president called for a rising vote, which was unanimous in favor of Dr. Brocke's application.

Dr. C. B. Burr, of Flint, read a paper upon the subject of "Diagnostic Hints in Mental Diseases." At the request of the president, Dr. Hotvedt opened the discussion, and was followed by several members.

Dr. Nicholson presented two clinical cases in line with the subject of the paper for examination and diagnosis, and treatment.

Meeting adjourned to dinner.

V. A. CHAPMAN, *Secretary*.

NEWS

Married, June 7, 1911, Dr. Harry Alonzo Sibley, of Pontiac, Michigan, to Miss Alice Sandford Wixom, of Wixom, Michigan.

President Taft has appointed Raymond C. Andries, of Detroit, Neal L. Hoskins, of Detroit, James W. Inches, of St. Clair, Alexander J. McKenzie, of Detroit, and R. A. C. Wollenburg, of Detroit, to be first lieutenants in the Medical Reserve Corps of the Army with rank from May 2, 1911. Additional appointments confirmed July 14: Clark David Brooks, Detroit; Louis Barth, Grand Rapids; Mark Marshall, Ann Arbor; James Fleming Breakey, Ann Arbor; and Reuben Peterson, Ann Arbor.

THE A. P. A. AND DR. WILEY

If Dr. Harvey W. Wiley, chief of the United States bureau of chemistry, falls before the determined attack made on him by the "Advertisers' Protective Association," an anonymous organization which claims to represent manufacturers of foods, drugs and beverages, but has only a lock box in the New York P. O. to show as credentials, it will be a distinct setback for the pure food and drugs act. In no better way could it be shown that this measure must be administered in the interests of business and not in the interests of the people at large for the conservation of whose health it was intended.

Dr. Wiley, impulsive and blunt of speech, has made mistakes. Few men, big or little, do not. In general, however, his enforcement of the law has been along the lines of the public welfare. With a severity that has made him both respected and feared by those who would defy the federal statutes if they dared, he has mingled a common sense which has won him the confidence of the more reasonable of the manufacturers. Every consideration demands that he be retained in his position.

This association, to which only the secretary has the courage to affix his name, has the gall to announce that it will attempt to secure pledges from the next Republican and Democratic presidential nominees that Dr. Wiley be discharged. If this pledge is not given "said nominee cannot obtain the support of the organization." This is about the finest example of brazen effrontery that has fallen under the observation of the *Press*. —*Grand Rapids Press*.

MICHIGAN TO GIVE COURSE IN PUBLIC HEALTH

Meeting the demands of our growing city life, the Medical Department of the University of Michigan will give a new course, beginning with the fall of the present year, to train prospective guardians of the public health. The two year course will lead to the degree of Doctor of Public Health, a degree conferred in England, and is designed to prepare health officers for the duties of their position. It will consist of training in advanced medical work and specially selected studies in the fields of sanitary and municipal engineering.

At a recent meeting of the Conference on Medical Education at Chicago, the deans of the medical schools at Harvard, Pennsylvania, and Michigan, who were in attendance, got together, and agreed to suggest the giving of a course in public health at each of the three institutions represented, to begin simultaneously the coming fall. This suggestion will be carried out at the three universities of Michigan, Harvard and Pennsylvania.

The course at Michigan will be open only to students having the M.D. or B.S. degree from the Medical Department of that institution, or from some other well accredited medical school. The student's time will be about equally divided between the two departments of Medicine and Engineering. In the former, he will pursue work in the chemical and biological examination of drinking water, food analysis, water analysis, advanced bacteriology, pathology, and food chemistry. In engineering, he will be instructed in the principles of heating, ventilating, plumbing, sewage and garbage disposal, water supplies, and methods of purification of water.

Dr. R. E. Balch, Kalamazoo, Chairman of the Section on Surgery, and Surgical Collaborator on the JOURNAL, is suffering from blood poisoning. About the last of June he became infected in one finger, the infection spreading up the arm within a few hours. Several incisions were made, dressings applied, and the doctor apparently recovered, sufficiently so that he went to a neighboring city in consultation, but upon returning became worse, and returned to Bronson Hospital with a general infection. One wrist and one ankle have been opened, and several ounces of milky fluid aspirated from one knee. The symptoms have abated somewhat We hope for the doctor's early recovery.

Dr. B. Friedlaender, of Sebewaing, sailed on the Kaiser Wilhelm Der Grosse July 17 for Bremen. He will take up Gynecology, General Surgery and Surgical Pathology at Munchen, and expects to be abroad about six months. Address, care of Bayerische Hyoptheken & Wechselbank, Munich, Germany.

Married, John Charles Benson, M. D., Flint, to Miss Katherine Eleanor Brennan, Detroit, on June 28; Carlos W. Shotwell, M. D., Detroit, to Miss Irene Melinda Edy, London, Ont., on June 27; Dean Ely Godwin, M. D., to Miss Myrtle Elizabeth White, both of Coldwater, on June 28.

Dr. Reuben Peterson, of Ann Arbor, has been elected President of the American Surgical Association.

BOOK NOTICES

Practical Cystoscopy and the Diagnosis of Surgical Diseases of the Kidneys and Urinary Bladder. By Paul M. Pilcher, M. D., Consulting Surgeon to the Eastern Long Island Hospital. Octavo of 398 pages, with 233 illustrations, 29 in colors. Philadelphia and London: W. B. Saunders Company. 1911. Cloth $5.50 net.

This book is a very complete treatise upon the subjects outlined in the title, and is a timely publication. The arts of cystoscopy and ureteral catheterization have become so definitely established that it is well to furnish the student with a proper text-book upon the subject. The volume presents clearly the indications for the use of the cystoscope and ureteral catheter, and an excellent description of all the varieties of instruments in use for the purpose.

Journal articles during the past fifteen years have contained all of the material found in this volume, but the results of the labors of many investigators have been consolidated and presented in an able manner. The book will fill a real need, and no one interested in this special field of labor can afford to be without it.

What to Eat and Why. By G. Carroll Smith, M. D., of Boston, Mass. Octavo of 310 pages. Philadelphia and London: W. B. Saunders Company, 1911. $2.50 net.

This is one of the handiest books for the busy practitioner on the subject of Dietetics the reviewer has yet seen. No long dissertations on the scientific and chemical value and adaptability of foods, but a plain statement of what is the best diet in a given disease or case, with short, convincing reasons.

A classification of diseases and a classification of diet based upon the anatomical nature of the trouble for which the diet is prescribed is of great help. The author does not talk much about the lessening or increasing the intake of protein, carbohydrates, or fats, but mentions the article of food, as beefsteak, bread, butter, etc., that shall or shall not be taken in certain cases, and why. For quick reference the book is almost indispensable. For scientific study of dietetics it is not intended. It presupposes the reader knows that or will get it elsewhere.

Studies in Cardiac Pathology. By George W. Norris, M. D., Associate in Medicine at the University of Pennsylvania. Large octavo of 233 pages, with 85 original illustrations. Philadelphia and London: W. B. Saunders Co., 1911. Cloth, $5.00 net.

The scope of the above work embraces the pathology of the heart in all known affections. The plan is to treat each condition separately, e.g., acute endocarditis is treated under Predisposition, Morbid Anatomy and Pathogenesis. Attention is called to the frequency in which it occurs in such infectious diseases as scarlet fever, diphtheria, the puerperium, pneumonia, all cocci infections, rheumatic fever, chorea, tuberculosis and typhoid. Also the conditions present in each are shown and distinctions drawn.

The illustrations on heavy enameled paper are full page half-tones, which bring out all details beautifully. They are to be found closely accompanying the text, usually on the opposite page.

In a decidedly interesting manner the author explains the pathologic conditions and shows how these conditions are brought about and the disease or manner in which they arise. He shows how the different affections of the leaflets of the mitral valve may bring on stenosis or the funnel-shaped orifice of early life; how chronic nephritis produces a thickening, hardening, shortening or calcification of the leaflet, papillary muscle and chordae tendinae. In this manner he has succeeded in lending much attraction to this very important subject—Cardiac Pathology.

There is perhaps no organ of the entire anatomy, unless it is the brain, so little understood as the heart. This arises as much from its situation and difficulty of approach as from the complexity of its mechanism and functions. When we consider the wonderful construction of the heart, the care with which nature has guarded it from approach and from outside interference, the complicity and multiplicity of its muscular and nerve fibers and centers, the almost living intelligence that exerts the correct influence on each at the proper instant to secure the proper action and force to propel the blood stream as it does, we do not wonder at the meagerness of this comprehension on the part of man. This author, however, aids materially to a better understanding than we now possess, by his beautiful exposition of heart pathology in the book under discussion.

The reviewer feels certain that he who carefully refreshes his mind by a perusal of this volume will be far better able to interpret the conditions in the cases that fall to his care.

A pleasing and interesting feature of the work is the large number of autopsy reports, each accompanied by a short clinical sketch of the patient's condition during life. This enables one the better to study symptoms and make comparisons. The pathology of the heart is certainly beautifully and clearly set forth in this work.

The Practical Medicine Series. Comprising ten volumes of the year's progress in medicine and surgery, edited by Gustavus P. Head, M. D., and Charles L. Mix, M. D., the Yearbook Publishers, Chicago. Vol. II, Surgery edited by J. B. Murphy, A. M., M. D., LL. D. Net, $2.

Volume II of the Practical Medical Series, now out, is devoted to the advances made during the year on general surgery. Among the many we notice: in anesthesia a summary of the results in the intravenous and rectal administration of ether and chloroform with technic; a description of several methods of administering anesthetics, both local and general, some approved, some condemned; several new instruments, apparatus, and ideas in bandaging; technic in tendon suturing; a pneumatic shield for operations on the lung. In diagnosis complete descriptions of Murphy's Fist, Perpendicular, and Piano percussion and the deep grip palpation are given.

Transverse incision for appendix, pelvic, and epigastric operations are fully described. Much advance has also been made in treatment of peritonitis. In the application of the Fowler-Murphy treatment better means for holding the patient in position and maintaining proctoclysis have been devised. Important advance in the surgery of the stomach, spleen, bile ducts, rectum, kidney, etc. Also the head and neck, the spine and cord, the upper and lower extremities. Among which is described a "Laparotomy" on the Knee Joint, Ligation of the Superior Thyroid Vessels, and Indentation of the Skull without Fracture.

The volume is edited by John B. Murphy, of Chicago. It sells for $2, and is invaluable to the general practitioner and to the occasional operator.

A Treatise on Diagnostic Methods of Examination. By Prof. Dr. Herman Sahli, Director of the Medical Clinic, University of Bern. Edited, with additions, by Nathaniel Bowditch Potter, M, D., Asst. Professor of Clinical Medicine, College of Physicians and Surgeons, New York. Octavo of 1229 pages, containing 472 illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $6.50 net; half morocco, $8.00 net.

This book contains not a compilation of diagnostic methods, but the methods actually used by the author in the Medical Clinic, University of Bern. Diagnostic methods which the intelligent practitioner could not be expected to master, such as the Roentgen Ray, are given in fine print and sufficient detail, but do not receive the attention accorded other and simpler methods. This work is most complete, the translation clear and easy, and the illustrations exceptionally appropriate.

The Principles and Practice of Modern Otology. By John F. Barnhill, M. D., Professor of Otology, Laryngology, and Rhinology, Indiana University School of Medicine; and Ernest de W. Wales, B. S., M. D., Clinical Professor of Otology, Laryngology and Rhinology, Indiana University School of Medicine. Second edition revised. Octavo of 598 pages, with 305 original illustrations, many in colors. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.50; half morocco, $7.00 net.

This book covers the field of otology minutely, completely, and with well-selected diction. An especially valuable part is the chapter on examination of the function of the ear. The Uniform Acoumetric Formula is given in full, and should be a valuable addition to the equipment of the man who occasionally must handle ear cases, as it unquestionably has been to the specialist. No particular chapter excels more than others. The illustrations are clear as to detail, abundant and timely. The arrangement of text is systematic, making reference easy. Each condition treated is subdivided under the headings of Causation, Pathology, Symptoms, Diagnosis, Treatment, or such other subdivisions as may be indicated.

A Text-book of Medical Diagnosis. By James M. Anders, M. D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, and L. Napoleon Boston, M. D., Adjunct Professor of Medicine, Medico-Chirurgical College, Philadelphia. Octavo of 1195 pages, with 443 illustrations, 17 in colors. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $6.00 net; half morocco, $7.50 net.

The above mentioned work will prove of wonderful help to the busy practitioner, a saver of time and a friend in need. In terse and pointed language, at all times sufficiently explanatory, will be found clearly and distinctly set forth all that experience and science has yet taught us of the means and methods for making a complete and perfect diagnosis in any given case.

In other words, the book is thoroughly up to time, teaches diagnosis from pathological, clinical and laboratory findings, recognizing the truth that all three are necessary to a perfect understanding and intelligent handling of sickness and disease.

The arrangement and indexing are such that it will be found possible to turn, in the shortest space of time, to any given subject where, spread out on the page before him, the clinician will find elucidated, in the clearest language, full interpretation of the puzzling conditions presenting themselves.

It is a valuable, up-to-date, and highly satisfactory book.

MICHIGAN REGISTRATIONS SINCE LAST REPORT

Name and Address		College	Date
Abbott, Percival J.	Albion, Mich.	Detroit Coll. of Med.,	1911
Barr, Robert S.	Detroit, "	Detroit Homeo. Coll.,	"
Bell, William C.	" "	" " "	"
Blakeley, Arthur C.	Almont, "	Detroit Coll. of Med.,	"
Breitenbach, Lawrence P.	Detroit, Mich.	" " "	"
Buck, John D.	" "	" " "	"
Bunce, Earl P.	Williamsburg, Mich.	" " "	"
Buss, John A.	Detroit, Mich.	" " "	"
Byington, George M.	Cressey, "	" " "	"
Carstens, Henry R.	Detroit, "	" " "	"
Caster, Elisha W.	" "	" " "	"
Clinton, William R.	" "	" " "	"
Costigan, Daniel D.	" "	" " "	"
Craig, Harold M.	Fowlerville, Mich.	" " "	"
Dayton, Darcy M.	Detroit, Mich.	" " "	"
Dees, Wilmot W.	Oxford, "	Coll. of P. & S., N. Y.,	1885
Dibble, Harry F.	Detroit, "	Detroit Coll. of Med.,	1911
Dolman, Ernest N.	" "	" " "	1910
Donnelly, Leo C.	" "	" " "	1911
Foley, Charles J.	" "	" " "	"
Gibbs, Maurice S.	Concord, "	Detroit Homeo. Coll.,	"
Goux, Raymond S.	Detroit, "	Detroit Coll. of Med.,	"
Gronkowski, Adolph	" "	Detroit Homeo. Coll.,	"
Hanna, Elmer H.	Birmingham, Mich.	Detroit Coll. of Med.,	"
Hicks, Glenn C.	Jackson, Mich.	" " "	"
Hughes, Albertie A.	Fowlerville, Mich.	" " "	"
Hull, Robert C.	Detroit, Mich.	" " "	"
Huston, Charles C.	" "	" " "	"
Kline, Starr L.	" "	Detroit Homeo. Coll.,	"
Manton, Walter W.	" "	Harvard Med. School,	1909
Maunders, Joseph E.	" "	Detroit Coll. of Med.,	1911
McCall, James H.	" "	" " "	"
McNair, Lawrence M.	" "	" " "	"
Miller, Donald L.	" "	" " "	"
Norris, Ralph A.	" "	Detroit Homeo. Coll.,	"
Perkins, Ralph A.	" "	Detroit Coll. of Med.,	"
Robinson, Edwin L.	" "	" " "	"
Ryerson, Frank L.	" "	" " "	"
Ryerson, William W.	" "	" " "	"
Scott, Robert D.	Flint, "	" " "	"
Smith, Henry S.	Albion, "	" " "	"
Spicer, Joseph H.	Detroit, "	Baltimore Med. Coll.,	1910
Stafford, Leo J.	Onsted, "	Detroit Coll. of Med.,	1911
Stringham, James R.	Cheboygan, Mich.	" " "	"
Vardon, Colin C.	Detroit, Mich.	" " "	"
Wiers, W. W.	Washington, Mich.	" " "	"
Wiles, Edward W.	Detroit, Mich.	" " "	"
Dunwoody, John F.	" "	" " "	"
Defnet, William A.	Escanaba, "	" " "	"
Morris, Frank L.	Evart, "	" " "	1910

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ORIGINAL ARTICLES

OBSTETRICS IN THE HOME*

CHARLES E. BOYS, M. D.
Kalamazoo, Mich.

As one looks over his case histories even in our later days, he recognizes an altogether too large percentage of gynecological cases in those who have borne children. This seems to continue in spite of the fact that so many men now practising have taken their obstetrical work under competent teachers. The old adage that "Gynecology follows in the wake of bad obstetrics," comes to mind again. The conclusion is that the standard of obstetrical practice is much below that of other branches of medicine.

There are undoubtedly many factors which influence this. It is to many physicians very distasteful work. To others who are extremely busy, it is torture to take the necessary time to accomplish good results. Then the standard of obstetrical requirements among the people is very low. The minor importance given to this branch by many physicians themselves has an influence, the argument being that it is a natural process and so needs little attention. This low standard which has been established in both the lay and professional mind has resulted in a diminutive remuneration for the work, and it has followed that the best men have been largely driven or attracted to other fields more remunerative.

But as the dentist has passed from the crude roll of tooth-puller to add those refinements of reconstruction of teeth or still better, the prevention of their injury, so has the obstetrician passed from the station of "cord tier" only, to that of one who guides the living of the woman so that she is at her best when labor comes on; who prevents sepsis and injury during confinement, or if injured, secures good repair; and who directs the puerperium until she regains her usual good strength. In this he saves himself and his profession from the often just reprimand of the woman who says, "I have never been well since my baby was born."

The function of the physician does not begin with labor nor end with it, but it should begin almost with the beginning of pregnancy, and it does not end until at least several weeks after delivery. In a word, the woman needs guidance in preg-

*Read before Muskegon-Oceana County Medical Society December, 1910.

nancy, in labor, and in the puerperium, and it would be difficult to say truthfully that the one is of more importance than the other.

Surgery is so often made necessary by the unexpected, the tragic, the horrible. It is often so hopeless that there's nothing to lose and all to gain. Obstetrics, on the other hand, is the result of usually voluntary action and in pursuance of the most sacrificing spirit in mankind. The woman who willingly enters pregnancy once or perhaps several times, surely deserves the most careful consideration of all surgical conditions, and surely merits protection from infection and permanent injury, both of which conditions are usually either introduced or permitted by the accoucheur. So that to practise high grade obstetrics one should first of all be a good surgeon and gynecologist, and then to these add those refinements which are peculiar to this line of work. An obstetrical operation, a forceps delivery, for example, merits the same consideration as any major surgery, and the ignoring of this point has led to many undesirable results.

It is generally conceded by physicians and nurses, and also is being believed by the laity as well, that confinements which are conducted in a well regulated hospital have better results than do those which remain at home. This is observed even when the doctor and the nurse remain the same, the only difference being that of the equipment, and this brings us to the chief point of the paper to-night.

In the hospital the doctor has everything that can be desired both in quality and quantity. He has an appropriate room; he has proper light and heat; he has good instruments, tables and scrubbing facilities; he has abundance of sterile goods; and he has plenty of skilled help who see to it that the details of preparation and asepsis throughout the case are carried out whether each one is recited to them or not.

Contrast the magnificent hospital equipment with the average obstetrical bag, and the answer is given to the query why is obstetrics in the home usually bad? The most important advantage in the hospital is not the magnificence or convenience of the building, but it is in its sterile goods and trained help. This gives us a chance, then, to make the household obstetrics on almost an equal plane to that of the hospital if we will but try to do so, for we can transport with ease both good nurses and sterile goods; and to such an extent that nothing in the way of supplies is needed from the home except fire and water.

The essence of good obstetrics in the home, outside of proper knowledge, is a good equipment, and a proper conception of the importance of obstetrical procedures. How many of us would hasten to answer the call of a neighboring-town physician to an abdominal case with so meager an equipment as we ordinarily carry for an obstetrical case! We would shudder at the thought. Yet think nothing of it on confinements.

By good equipment one does not mean every instrument that is made for use in obstetrics, but it does mean more than a rusty pair of scissors, an artery snap discarded from the surgical bag, and a pair of needles. It is remarkable how few instruments are really needed to do even perineorrhaphies, vaginal Caesarian sections or complete tears, if these few are properly selected. With the more general use of high forceps for both low and high, the one pair suffices for two. The importance of at least two strong 7 inch forceps cannot be too strongly emphasized, as these make a quick cutting of the cord possible in the event that it is not long enough to allow of delivery without breaking it, or detaching the placenta. Four would be better. Two small tenaculum forceps help greatly in re-

pairs, as they do not crush the tissues to be united so badly as the snaps do. Two 8 inch clamps, one dressing forcep and speculum are at times desirable.

The equipment should also include sterile goods. In the order of importance I consider them as follows: sterile cotton pledgets (⅓ pound is average amount needed for one labor), six sterile towels, sterile leggings, sterile gown, sterile tape for cord in alcohol, rubber gloves, three yards gauze packing, two dozen sterile vulvar pads.

The second point I wish to make is the importance of properly preparing the patient and surroundings. The room once selected, it takes but a few minutes to put it in shape for delivery. There is a great temptation to leave things as they may be found, but should an unusual condition arise later, the ten or fifteen minutes taken in rearranging a room will be abundantly paid for. I believe that it is well to prepare for the unusual in most all cases, rather than to be caught without it in a few where badly needed. Upon entering the house I think it important to listen for sounds from the parturient, as from these alone we can often estimate rather closely the amount of time we shall have for preparation and guide ourselves accordingly.

I wish to emphasize the importance of always taking the pulse and temperature before any preparation has been done. This frequently saves one from embarrassment later if fever should develop, as it determines if it was present before your arrival, and yet this is often neglected.

If the labor has not progressed far, I should have an enema given, but if there is any likelihood of the labor terminating inside of three or four hours, I object very strongly to their being given, since if they are not thoroughly expelled some time before the end of labor the liquid of the enema and the feces will be forced out the anus intermittently, greatly increasing the danger of colon infection. Indeed, the accoucheur himself is liable to have his gown or gloves or other sterile dress contaminated, and no second one to put on. Solid stool can be easily cared for when expressed, and is much to be desired over a liquid one.

The writer has a nurse who either accompanies or goes in advance, selects the room, removes unnecessary furnishings, and protects what furniture is used from injury by heat or solutions; provides for both day and artificial light; arranges for proper heating. For the protection of the bed, chairs, tables, etc., newspapers serve the best, except where the fresh white paper direct from the mills can be had, as is the case in Kalamazoo. I prefer this to either Kelly pad or oilcloth to place under the patient, as the same ones are used by but one person. A complete delivery can often be accomplished without getting a drop of blood or other material on the bedding, by the generous use of newspapers or the above. I am now using paraffin paper, and find that it sheds water best of any, but it is more brittle than newspapers and tears more easily.

I consider it important to have at least two tables in the room. A card-table or center or kitchen table will serve. On one of these I place all the contents of the obstetrical bag, so that quick access can be had to anything wanted. A second table I consider very desirable to use exclusively as one for sterile goods, being first covered with one or two of the sterile towels carried. All boiled things can be placed on here, covered up, and kept till needed. They are thus very accessible. The occasional inability to get a second table for this purpose argues for the carrying of a copper pan for boiling instruments, and large enough to contain all that are carried. The water can be drained off, and the pan being placed on a chair serves in emergency for sterile instrument-holder.

In preparing the patient, I prefer to have her transversely across the bed, with hips projecting over the edge and with feet on the knees of the accoucheur. With several thicknesses of papers under the patient, and a foot bath-tub, or ordinary tub, if the bed is high enough, underneath to catch all the slops, we have the most convenient position for both preparation and also for delivery. Shaving is done in nearly every case, and where absolutely refused, she most always will allow clipping with ordinary barber's clipping machine which is carried in the bag. I meet with an ever decreasing number of people who refuse shaving. Much can be accomplished if it is explained to the patient that the delivery of a child is as important a procedure as having an operation, and no good surgeon would ever operate a hair-covered field because she would be more likely to get blood poison. If after this it is refused, I demand that my responsibility is lessened or even ceases entirely because I was not allowed to do as I knew to be to her best interests. The importance of this measure is becoming instilled into people, however, as was shown a few months ago by one instance where the husband had the shaving all very nicely done upon the arrival of the physician, saying that he knew it would be done anyway, and he thought he would help things along that much.

After shaving, another thorough scrubbing is given with soap and water, and then with lysol, using care not to allow any to enter the vulva. The vulva is then prepared by scrubbing gently, giving especial care to the removal of smegma about the clitorus, which so frequently is overlooked.

I believe it important that no internal examination be made until after this preparation be made, as more or less infective material must otherwise be carried into the vagina unnecessarily. I always use gloves for this. In this connection I wish to emphasize the importance of making as routine an external examination for the diagnosis of position and presentation. The more I do this the more confidence I have in its value. The delivery has several times shown that the diagnosis made from the external was better than that from the internal examination. Of the external findings the location of the fetal heart tones has served me best.

The normal delivery, however, is not so liable to be followed by bad results as is the operative one, naturally because there is much more necessary exposure to infection. It is here especially that we need preparation, and being handicapped in one way and another, we are so prone to neglect it. For example, how often have you seen forceps boiled in a dishpan which is almost never large enough to allow the handles to touch the water at all. The wash-boiler serves well, but is too cumbersome. The copper pan with lid, mentioned before, is easily carried within the bag, and as it makes a good container for the instruments, no space is lost.

One of the most common errors outside of bad aseptic technique, in doing forceps operations, is to attempt it with the patient across the ordinary bed. I have on several occasions been called to finish deliveries where I believe the failure had been due to neglect of this precaution. The kitchen table is almost omnipresent, and should invariably be pressed into service here. Without the patient at this height it is almost impossible to apply the proper force and in the proper direction. It also makes it easy for assistants to hold legs and otherwise control the patient.

Another consideration which we are apt to neglect in the home is to attempt operative procedures, and even ordinary ones, without sufficient or proper help. Several times I have almost failed to deliver because from the examination I judged that it would be easy, and began without sufficient help.

A few trials soon proved my mistake. I believe that help can be obtained far more often than we think it can, if we but make the effort to get it. Even if we have no trained nurse, we can practically always get all the neighbor women we need, and with a little instruction as to what to do, and especially what not to do, they will serve far better than too few.

In this connection I want to urge the employment of a trained nurse on every case, even if but for the delivery. There is usually one to be had, as this short service never interferes with a longer case, and is sometimes really enjoyed by the nurse because of its brevity. Since I have been preaching to my patients the importance of this, I find very few who will refuse to pay for a day's services of the nurse, and even though they do it more or less grudgingly, they are usually more than glad that she was present before they are through. For those who are really so poor that they cannot pay for even one day of nurse's services, one can have some woman who will go on these cases, and she can be so instructed that she will at least do no harm. My experience so far is that a woman entirely ignorant of the work, and who recognizes her deficiency, is the safest person to have outside of a trained nurse. Help can be had if we urge that the importance of the occasion warrants it.

One person who should invariably be present at all operative procedures in the home even more than in a hospital is a second physician, who should administer the anesthetic. It is even more unreasonable to give an anesthetic and do a forceps operation than it is to both administer an anesthetic and remove one's appendix. How many women would permit for a moment a neighbor woman to go to the hospital and give her an anesthetic for a surgical operation! Yet they allow and we permit this to be done in obstetrics purely because the importance in this connection has been underestimated so long that it has become to be a standard of practice. It is impossible to give or help in giving an anesthetic and keep clean at the same time, and the woman is liable to suffer for our errors of technique. I imagine that we could be just as careless and dirty in surgery without deaths as we are in obstetrics, if there was provided in all those cases the excellent drainage which nature has so magnificently supplied to the puerpera. When we put obstetrics on the plane where it belongs, namely, with general surgery, and the same care is used, then will the results be what they should. It is indeed unpleasant enough for a woman to undergo the pain of delivery, yet how much worse are those things which we cause or permit to remain because she is in the home, and we are not sufficiently supplied with equipment and help to give her as good help as we really can bestow. It is better to give the woman all the help that is needed for proper care than to save the price of it to her heirs.

In speaking further with reference to the anesthetic, I wish to emphasize the advantages of ether over chloroform for this work, and especially when used in the home. Ether is undoubtedly much less toxic. The intoxication from chloroform is similar to that in toxemia of pregnancy, and it only adds to the danger of the latter condition. Ether can be given for either light or complete anesthesia with gratifying effect. It is vastly superior in the home, because most homes have open lights, and open lights do not cause disagreeable combustion products with ether as they do with chloroform. I have nearly always observed the very disagreeable and irritating fumes from chloroform in the presence of open lights whenever it was used. On one occasion I was nearly prostrated by these fumes before the operation was done. In the practice of a colleague, three assistants, two being

physicians, had to retire from the room on account of them, and just at a most critical time when all were badly needed. The effect of this gas on the lungs must be anything but desirable. Ether is not dangerous in open light if kept below the light, and not any way if the vapor inhaler is used. In this apparatus there is nothing more to burn when one stops working the bulb. Ether is also safer under all circumstances if it has to be given in an emergency by one unskilled in the administration of anesthetics.

It frequently happens that the baby does not get as good care in the home as it does in the hospital, generally because of lack of things to do with. And yet the things necessary to give the baby the best of care are easily carried. A two ounce bottle full of boric acid solution makes the immediate cleansing of the eyes at birth easy to accomplish. With another bottle of sterile albolene one can remove all vernix from that region where the binder will be placed as soon as the cord is cut. The stump can then be treated with alcohol or lysol solution, covered with sterile cord dressing from the bag, and binder applied at once. I believe that this is work which the doctor should do ordinarily, and surely if a trained nurse is not in attendance upon the case. There is no reason why this stump, which is sterile, should be exposed to infection by going through hands not sterile any more than that a surgical wound should be returned to the ward and then the dressing applied by a floor nurse.

A still greater duty we have toward the baby is to instill a few drops of silver salt into the eyes as soon after birth as possible. In my own practice I make no exceptions to this rule since finding recently a gonorrheal ophthalmia a few weeks after birth in the child of a family of irreproachable character and life, where the treatment was omitted on account of their standing. This will care for ordinary infections, and accidental ones may occur even though the parents are free from the disease. Argyrol was tried, but it has not proven satisfactory in the writer's hands. The fact that it quickly (seven to ten days) decomposes when in solution, is perhaps the reason. Carrying crystals was then tried, but in hot weather these melt and then go into solution too slowly to be practical.

Usually as soon as the baby is removed, it is a good plan to examine for lacerations, as the placenta and membranes retain the blood so that the field can be kept free and a good view obtained. This also facilitates the repair if one is needed, for the same reasons. I have never experienced any damage from the delivery of the placenta over sutures placed at this time.

It is within our bounds to see to it that the woman has sterile pads to use after labor. This is always possible in or near hospital towns, as the institution is always willing to provide them. The patient can be sent to buy them, but if they refuse to do so, it is best for the doctor to buy them himself rather than to hazard his results.

We cannot emphasize too much the importance of the after care. The vulvar dressings should be as carefully looked after as any wound. Cleanliness must be still the ruling word. When trained help is in attendance, I leave the after care to be carried out by her, but if some one unskilled in asepsis is in charge, I instruct her only to change the pads, handling them only by the ends, as often as one is soiled, but to leave the other cleansing to me. This is attended to at each visit by means of lysol or bichloride solution and sterile cotton. A small bag is prepared and reserved for post partem calls only. This prevents contamination which is likely if the ordinary emergency bag is used, as this usually serves in the dressing of pus cases. This bag contains not only chemicals for solutions, but cathartics, ergot, alcohol, and instruments as would be needed in the removal of stitches and in catheterization. I believe that

we should make more than one or two after calls, without regard to the remuneration in the case. So many complications come up in the first ten days which need our advice and attention. The baby won't nurse. He doesn't pass urine. He gets the colic. The mother's nipples get sore and crack and perhaps an abscess forms. She may get fever and numerous other complications. These need immediate attention to prevent worse conditions, and if we are not there they go unrecognized until perhaps they become serious. These conditions are too important to leave to the treatment of any one but the doctor.

The birth cry of the babe seems to be an assembly call for all the old patriarchs of motherhood within a block or two, who hastily respond and at once begin to advance unsolicited their ideas as to how to raise babies. They are sure that when you say to give "water" it means sugar and water, or anise and water, or whiskey and water. They will insist that the mother's milk is killing the baby, and feel offended if their demand to change to store foods is not heeded. On their second or third visit they invariably bring a breast pump, and administer its services to the young mother with as much unconcern as if they had only given a drink of water. Having served its mission, it usually lies soiled with milk and dirt upon the table or the floor to greet the doctor when he calls. If the pump fails to bring the desired results, at your next visit it will be observed that fat pork or tea leaves or a raisin are doing duty in its place. And it is not unusual to discover the aftermath of a douching which has just been given without your permission.

Not only is the young mother pestered by these things, but ere she has risen from her confinement bed the address agent has obtained her name from the health office and sent it to the market. She is now flooded with all sorts of catalogues and literature, and samples of everything pertaining to the rearing of babies, from what cab to buy to the great superiority of the products of the bran factories over the breast milk, and how in these later days it is only the ignorant and the degenerate anyway who are able to nurse their babies. The woman needs our presence to overcome this vicious teaching, and to give her well-established facts concerning her baby, or to advise what books she should get for the purpose.

Many young mothers are so fearful that they are not capable of caring for the baby, that they are easily discouraged, especially if things do not go just as desired. They are then susceptible to most any advice which may be offered. She is really eager to learn, and the doctor should be the teacher and not the neighbors.

Another point which should receive more attention in this work at the home is that of history sheets. This should invariably be kept if a trained nurse is on the case, but even when others are in charge, we can do something toward keeping a record. We are more apt not to forget to look for things if we record them.

To summarize, then, I would say:

Have things handy, as chairs, tables, lighting, etc.

Secure preparation as carefully as for laparotomy, and have convenient position.

Take along enough sterile goods to insure asepsis. Have sufficient and properly selected instruments in a copper boiler.

Use ether instead of chloroform.

Do not handicap your work by lack of help.

In all operations have a second physician.

Have a trained nurse at all confinements, even if for the delivery only.

Help to put the science and art of obstetrics upon the high plane of surgery where it belongs. Think of how it is done in the hospital, and imitate that to the best of your ability. When these things are kept in mind and practised, as they can be, then we will see the time when the work in the home will compare favorably to that in the hospital.



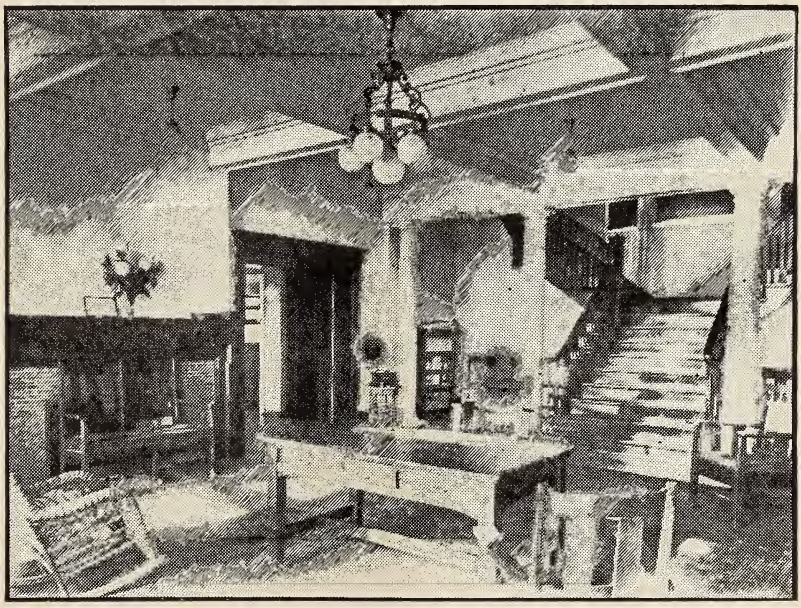
ADMINISTRATION BUILDING, STATE SANATORIUM, HOWELL

SOME PERTINENT FACTS CONCERNING THE STATE SANATORIUM

EUGENE B. PIERCE, M. D., Superintendent,
Howell, Mich.

Enabling Act passed by the Legislature of 1905. The Sanatorium is located three miles from Howell, Livingston County, and the first building opened for patients in September, 1907.

to consideration. The institution is easily reached, as Howell is on the Ann Arbor and Pere Marquette Railroads. Capacity of institution is eighty. Continual living in the open air is required. Comfortable dress-



RECEPTION HALL

The present buildings consist of: an Administration Building, with nine cottages, at convenient locations, accommodating from two to sixteen patients each; farm house, with a horse-barn, dairy and hen-house adjoining, located about one hundred rods from the institution proper. An abundant water supply is obtained from driven wells, and pumped to an elevated tank near the buildings. The farm consists of 272 acres. Sewage is disposed of by means of a septic tank and filter bed.

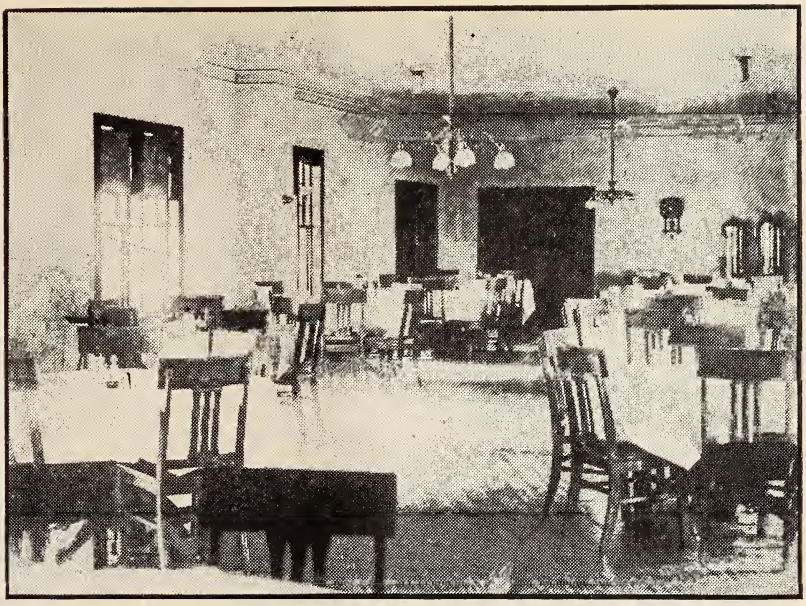
The location is ideal, when water supply, character of soil, and drainage are taken in-

ing rooms are provided at each cottage. An abundance of good nourishing food is served; forced feeding is not a part of the treatment; a low proteid dietary is urged.

The institution was founded with the idea of providing for tuberculous persons whose disease had not become too deeply seated—a place where permanent results could be obtained; therefore, only favorable cases are received for treatment. The greatest good of such a sanatorium is educational, and for that reason a number of advanced cases are received and taught how to care for themselves, and then returned home in



MICHIGAN AND HILL CREST

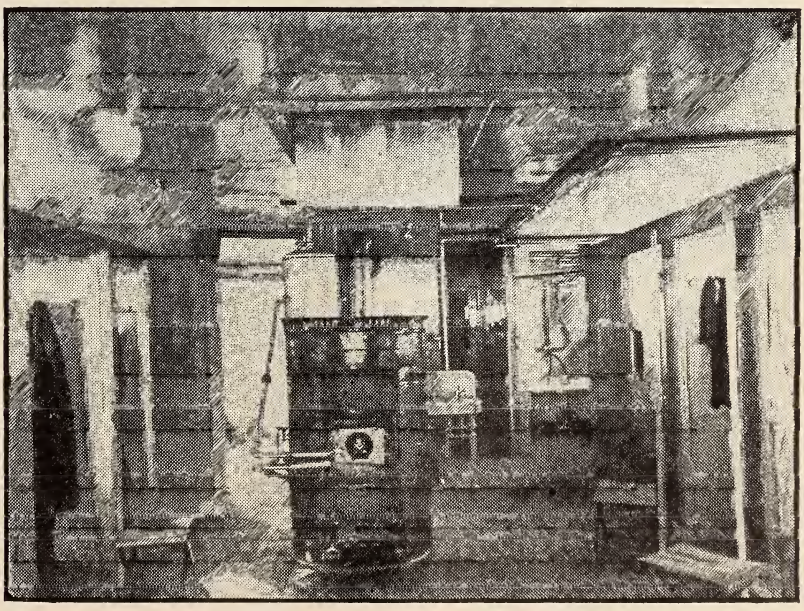


DINING ROOM

six to eight weeks. The profession must bear in mind the fact that the institution has only a few beds for hospital cases, and that it was planned for ambulant cases only.

The charge is $7 to those able to pay. Those unable to pay bring a certificate from their respective county supervisors, and the charge is then made direct to the county.

The value of the land, buildings, and all



LOBBY

furnishings is approximately $100,000. The last Legislature provided for the building of an infirmary to accommodate twelve more hospital cases, and other much needed improvements. It also appropriated a sum sufficient for maintenance, to enable the institution to care for its full capacity.

Application blanks and other literature sent on request.

Examining physicians are located at convenient points throughout the State. Examining physicians receive no pay from the State, but are allowed to charge a reasonable fee for their services.

Results are difficult of tabulation. The percentage of arrested cases and apparent cures, at discharge, is the same as at other sanatoria. Permanent results depend upon the individual. The educational feature is far reaching, and cannot definitely be ascertained. Knowledge of the necessity for prompt action in cases of tuberculosis, in order to obtain the best results, is limited to the large centers of population in Michigan.

Classification of results for the years 1909, 1910, 1911:



TAKING THE CURE

	Incipient			Moderately Advanced			Far Advanced			Totals			Per
	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	Total	Cent
Apparent Cures	13	29	42	2	5	7				15	34	49	15.07
Arrest	9	17	26	43	28	71	3	5	8	55	50	105	32.31
Improved	5	13	18	30	21	51	8	17	25	43	51	94	28.92
Not Improved	3	1	4	18	20	38	21	14	35	42	35	77	23.70
	30	60	90	93	74	167	32	36	68	155	170	325	

Eighty-five cases stayed less than a month; therefore, not considered in Reports. Also four deaths.

Total cases considered, 325; apparent cures and arrests, 47.38 per cent.

THE PHYSICIAN AS A FINANCIER?*

W. A. GIFFIN, M. D.
Deckerville, Mich.

I will offer no apology for a paper which contains no scientific point, neither has it any bearing on any physiological, or pathological condition, diagnosis, or treatment of disease.

I have been attending medical society meetings for a good many years, and all the papers I have ever heard have had the one idea in their entirety—the benefit of the patient. And it is scarcely necessary for any reputable physician to say that he heartily endorses that grand axiom of the medical profession, "The welfare of the patient is our first consideration." But after listening for years to papers with that noble aim in view, I think it is pardonable to offer a paper on the second, third, or fourth consideration, the benefit of the indefatigable, hard-working, brain-racked, and often unappreciated medical practitioner, and I offer for your consideration a paper with a question mark after it, "The Doctor as a Financier?"

Probably in every age, but it seems to me from what I have read that never in the history of the world, has the dollar mark been as much used as a graduate to measure a man as it is to-day. And while I agree with the most conscientious in deploring this condition, unless we are willing to lose not only the just rewards of our labors, but, in a measure, the respect of our fellow men, and with that the power of helping them, we must pay a little more attention to finance; and hence I propose and request that we consider the question of bettering our own financial condition, if it is necessary. It may be I am like the individual who wandered into what is called a revival meeting. A very important question had been asked, viz., "Will all who wish to go to heaven stand up?" After they had sat down the parson had asked all who wished to go to hell to stand up. All remained seated but the parson, who waited a few seconds, when this person, who had just awakened, struggled to his feet and remarked, "I—hic—don't exactly understand the question, but I'm with you, parson, but"—as he looked about—"we seem to be in a hopeless minority." Although I may be in the minority, I feel that the question is of some importance to me, and if I am the only one who is dissatisfied with the returns for fifteen years of ardent effort, embracing the best years of my life, I can cordially and unreservedly congratulate you. Quoting from an advertising circular I received some time ago: "Do you own an automobile? Do you own a yacht? Do you take a vacation every year? Do you make periodical trips to Europe?" Following these questions more luxuries were mentioned that we would all be glad to see enjoyed by that anxious, self-sacrificing and often much neglected personage, the doctor's wife. When I look about me and see that the great majority of my brother practitioners would be compelled to answer most of these questions in the negative, I am forced to think that for the amount of energy,

*Read before the Sanilac County Medical Society at Deckerville, Mich., June 5, 1911.

intelligence and time they also have expended, they can hardly be perfectly satisfied with the returns, cash returns, they are receiving.

I do not offer this paper because I deem myself exceptionally fitted to discuss the question, but because I never heard of a paper on the financial side of the profession, and I feel that some one should give this matter some attention, and because I hope to direct your attention to some things that have been neglected, to some extent, in the past, and because I believe that concerted action is necessary to bring the money-earning power of the profession up to where it belongs.

Quoting from Robert Burns' "Advice to a Young Man:"

> "To catch Dame Fortune's golden smile,
> Assiduous wait upon her,
> And gather gear by every wile
> That's justified by honor;
> Not for to hide it in a hedge,
> Nor for a train resplendent,
> But for the glorious privilege
> Of being independent."

I shall mention briefly the following obstacles which interfere with our financial advancement, as my paper would be a misnomer without them, laying particular emphasis on what I call the Suicide Habit and Patent Medicines:

1. The Quack.
2. The Prescribing Druggist.
3. The Drug Store Habit.
4. Lack of System in Bills and Collections.
5. The Suicide Habit.
6. Patent or Proprietary Medicines.

1. The Quack.—My answer to the financial side of the question for many years has been, Let the doctor perfect himself in his profession; let him learn to cure sick people, and the finances will take care of themselves. Now this is only partially true, for we have all seen doctors who were successful financially who were lamentably deficient in the scientific methods of treating disease; and we know that oftentimes kindness, a pleasing manner, and tact are prized higher by the sick and pay better than skill in treating disease. We also find that the quack, who never tries to cure any person, with his slick tongue and well-worded advertisements is able to have better carriages, more luxurious offices and more of the good things of life than some of our most eminent specialists. If you don't believe it, visit some quack establishment in a large city. And so I say, it is not always the best-qualified man who gets the most money in our profession. With regard to the quack, the State has recently taken commendable action, but it is only a step in the right direction. We should be alert and lend a hand to the punishment of these fellows who obtain money from the sick and the afflicted under false pretences, and incidentally divert the dollars in the wrong channel.

2. The Prescribing Druggist.—There is a law for this fellow, but although it is a leak out of our own pocketbook, how often, instead of enforcing the law, we will be found hobnobbing with him, and he will be particularly affable in soliciting our prescriptions, that he may at some future time replace them with better ones of his own which he obtained from some distinguished Dr. Famous or other, and your patient, if not lost to you entirely, pays his money to the counter prescriber, and another leak is sprung in the doctor's purse.

3. The Drug Store Habit.—I will just touch on this in the form of a question. Is it not barely possible that we ourselves go to the drug store too much, those of us who dispense, even to the extent of driving our patients away from us? Many of the laity are not educated, especially among the foreign population. They think that the druggist has the medicine and they can get it from him direct. They may find out

differently, but in the meantime the doctor is a loser. I do not emphasize this point, neither do I practise it; it merely occurred to me. Since writing the above I have had the idea more definitely presented in one of my journals, "*American Medicine.*" Inasmuch as it gives my own crude idea in a better form, allow me to quote it:

"The Degradation of the Drug Store.—There are in every city and village drug stores that can only be called pharmacies by a stretching of the meaning of the word beyond the recognition of etymologists. So far as concerns business, the drug part is a ludicrous fraud, as the articles on sale are a homeopathic dose of genuine drugs, and a huge oceanic mass of the 'menstruum' of soft drinks, bric-a-brac, china, silverware, and everything conceivable and inconceivable that will sell. Looked at from the professional aspect of the physician, these stores fill their windows, advertising spaces, newspapers, and bill-boards with advertisements of every nostrum which cupidity and quackery can devise, all in sharp competition with the physicians who are supposed to patronize them. And not content with this, these concerns rival the business of the nostrum syndicates by manufacturing the 'same kind' of concoctions themselves, all 'cheaper and better.' Still not satisfied with killing the doctor in these ways, they prescribe for any ailment the self-treater may describe, mix the dose and give it in 'fruit-syrup' soda-water to the walking patient. From the standpoint of the temperance reformer and the citizen, they also enter into competition with the saloons, and under the name of 'bitters,' 'cough-cures,' and all that, they sell the vilest of alcohol under the name of medicine. And we all submit, perhaps patronize. What a farce and a disgrace!"*

There is nothing that pleases us better than having "our sentiments too" expressed by some eminent authority, so I make a little flourish here.

4. That very sordid subject, Bills and Collections.—There seems to exist in the medical profession a tendency to ignore, in the presence of the patient, the monetary consideration. I know of doctors whose patient coming in to pay his bill, finds it difficult to get the statement. He is told to come again. Some other time will do. The bill is not made out, books not posted, etc. This is not finance. Where will you find a successful business man who will treat his debtors so? If we insisted on it, we could get our money among the first. There are few people but would get the doctor's fees from some source, and get them promptly, if custom demanded it. But indifference begets indifference. I believe it is up to a doctor to earn his money if he possibly can, and then to insist upon its prompt payment, or at least have a method to collect when a debtor is willing to pay.

5. The Suicide Habit.—This is the first term that occurred to me, and I have not been able to think of a better. It is well known that doctors criticize one another, and not always in a charitable spirit. I was informed of this before I began the study of medicine. I did not heed; I attributed it to failure, more or less. But I have noticed since, that I have not failed to hear the faults of a doctor from his brother practitioners. I once heard of a doctor who spoke in my favor to a patient who had been under treatment by both of us, and I was so surprised at such a thing that I spoke to him about it, and we got on this subject and he made this remark, "It is a wonder that people have anything to do with us, the way we talk about one another." And is it not so? We do constantly hear of our faults from one another, and does it not amount to ourselves defaming ourselves, ourselves dis-

*While village druggists are not entirely blameless in this respect, city druggists are the more flagrant offenders.

honoring ourselves? And is not honor more than life? We are a profession of suicides. Why is it that although medical practitioners have done more for the human race than any other class of men, we rarely hear of a great man who is a doctor of medicine? We rarely hear of a doctor of medicine who is a great man. A few years ago there was a project on foot in Washington to erect twelve statues or panels in the Capitol to twelve of the greatest men of the world's history. By great men, I take it, is meant men who have done something of great benefit to the human race. Notwithstanding that a wounded tramp would receive infinitely better treatment to-day than a wounded king two centuries ago, still not a single doctor of medicine was represented. Why was it? I'll tell you why. We are a profession of suicides. We kill ourselves as we go along. Outside of the question of ethics it is not good finance. You may find a layman willing to believe that Dr. Blank's visits are not worth anything, and even ready to concede that you are the great "I am," until Dr. Freelance gets at you, and then, those who live by the sword die by the sword. It may be I am making this point a little too plain, but before you repudiate it think of the last conversation you had on the merits of a brother M. D., and see if some doctor did not come in for a pretty severe brush, and if it was not the last, go back two or three. The remedy for this is in our own hands. All we have to do is, Stop it. It is undignified; it is unethical; it is unprofitable.

6. So-called Patent Medicines or Secret Nostrums.—What I consider another, and probably the most virulent parasite that interferes with the doctor's financial growth, is something that you probably consider of no consequence. That is doubtless true from the point of utility, but not so from the point of damage done and being done to the medical profession. I refer to so-called Patent Medicines or Secret Nostrums. You have, of course, observed the glowing descriptions, often half-truth, followed by absurd lies withal larded over with a semi-professional tone, in which the medical learning of the discoverer of the nostrum is exploited. All this backed up by the woodcut and signature of some member of Congress, or some divine—the ambassador of God. Now the layman reads these advertisements and believes them, else whence the immense amount of money expended for the advertising matter alone? Now all these advertisements carefully and artistically worded promise much. If the honest, conscientious physician cannot glibly and entertainingly diagnose the conditions and dilate on his wonderful discovery, is it any wonder that the simple will squander their money on the sure thing advertiser and pass by the uncertain prognosis of the conscientious physician?

Some time ago I saw a statement of the approximate amount of money expended yearly throughout the United States for patent and secret nostrums. Dividing this by the number of physicians of all schools, I found that it amounted to over $4,000 for each and every physician whose name appears in Polk's directory. Considering the number of physicians who have retired, others employed in wholesale pharmaceutical houses, others who are connected with life insurance companies and not depending on the practice of medicine for a living, we have an average of approximately $5,000 per practitioner. Now this money is diverted from the medical fraternity to the secret nostrum makers, yet we all look on this as a matter of no consequence, while it is manifestly one of the chief leaks in what should be our exchequer. While this evil may not be wholly eradicated, a concerted action, even among ourselves in this county will accomplish much. This would be a righteous war against what we all know to be

more injurious to our patients than to ourselves. And if conducted coolly, diplomatically, and persistently, can only end on the side of right.

For the sake of discussion and to avoid the accusation of pointing out an evil without an attempt at a remedy, I would suggest that space be secured in the papers of the county and a standing article be maintained, with the endorsement of this Society, pointing out the absurdities of the claims of patent medicines and the great probability of their doing absolute injury. Let this advertisement, if you please, stand for three months, until our next meeting, when a further attack could be made, and there is no end to what could be written on the pernicious habit of blind drugging.

I trust that our combined efforts will eventually eradicate these abuses, these blots, these excrescences on the fair name of Medicine, because it is through that name that they exist; that the prosperity of the honest Doctor of Medicine will be advanced and also the welfare of a confiding public guarded, and the boon "the greatest good to the patient" unquestionably secured.

THE DOCTOR

Editorial from the Escanaba, Mich., *Journal.*

Some person intimated to the editor of *The Journal* the other day that he thought we had a grouch against the members of the medical profession. We can't imagine why any person should have such an erroneous idea.

Who was it that helped us into the world, gave us the first hearty slap on the back to start the breath of life, looked into a red, puckered-up face in which no one but a mother and a doctor could see any trace of beauty and future greatness, and declared that we were the "finest ever" and was destined to become governor, president, or, possibly, an editor some day?

It was the doctor.

Who was it that was called in at all hours of the day, and who was disturbed and broken of his rest at all hours of the night to respond to the anxious "hurry" call of a fond mother, who perhaps imagined she saw the cold, clammy death sweat upon our infantile brow, and who had to smile outwardly while he raved and cussed inwardly as he assured that fond and anxious mother that "it was nothing but colic—he's only eaten too much"?

It was the faithful and long-suffering doctor.

Who was it that prescribed for us for measles, whooping-cough, mumps, stomach aches and such other incidents of childhood, and who was it that came on the double-quick in response to that hysterical maternal call, and who was it that still smiled outwardly, but damned inwardly, when by his knowledge gained by long experience he discovered that the boyish efforts to turn a heaving stomach inside out was caused by the first effort to "be a man" by surreptitiously smoking the hired man's dirty old pipe?

It was that ever-faithful, always kind, old doctor.

Who is it that is still helping to smooth out the aches and pains, by prescribing the "real stuff" when we really are sick, and a few bread pills or some pleasant, harmless "dope" when we are imagining that the last trump is about to sound for us?

It is the doctor.

Who is it that has saved our life at the several times when our good wife has presented us with new editions of the "old man," and who was it that also relieved our fears as we looked upon those miniature editions, and who smoothed away the oft-expressed doubts as to whether that red-faced, wiggling, twisting, squalling, sleeping bit of humanity could ever possibly resemble a normal human being?

It was the doctor.

Who was it that said, "I told you so," after those same editions have developed into healthy, normal children with an average amount of good looks and intelligence?

It was the doctor.

Who was it expressed the first words of sympathy when the hand of Him that had given reached into the home and took therefrom one of those dearly beloved and very precious bits of infantile humanity?

It was the doctor.

Who is it that, having helped us into the world is now busy helping us through the world, and some day will help us out of the world by making as easy and painless as possible the separation of the soul from the body; and who will be the first one to sympathize with the weeping relatives, and then go out among the living to speak kind words and tell his fellow men about the good things he found in our life that, perhaps, the world didn't know?

It will be the doctor.

God bless the doctor! Banish the thought that we have any grouch against him. The doctor is human, and, perhaps, has his faults; but, after all, knowing the faults, failings and sins of humanity as intimately as he does, isn't it remarkable that he holds his faith in mankind and goes about all his days doing good? There is the odd doctor who thinks more of the almighty dollar than he does of the higher mission of his profession, but, thank God, this kind is surprisingly scarce.

No one but God Himself should ever pass judgment upon the doctor, for He, alone, knows all about the great, sympathetic heart that beats in his breast, and that perhaps, sometimes is hidden behind a forced gruffness.

Again we say, God bless the doctor! There is no grouch here.

Do not forget the Forty-Sixth Annual Meeting of the Michigan State Medical Society, Detroit, Sept. 27-28

The Third Annual Meeting of the County Secretaries Association will be held at the Wayne County Medical Building, Detroit, Sept. 26 :: :: :: :: ::

LARYNGEAL COMPLICATIONS OF TUBERCULOSIS

NATHAN P. LEVIN, M. D.
Detroit, Mich.

It is not to be supposed that all laryngeal symptoms occurring in a tubercular individual are due to a local tubercular process within the larynx. Almost all consumptives who cough and expectorate much suffer from a low grade inflammation of the laryngeal mucosa, which is due to the constant irritation of the sputum brought up from the lungs, and to the congestion incident upon the prolonged and frequent coughing spells,—not to any local activity of the tubercle bacillus. The nasopharynx generally shares in this low grade inflammation, and along with the hoarseness and cough there is much hemming and hawking. A vicious circle is set up. The catarrh in the throat and larynx causes more coughing and more congestion, and therefore more catarrh.

This type of laryngeal inflammation is more common in phthisis than true tubercular inflammation, though Heaven knows the latter is common enough. The proportion of phthisical patients suffering from laryngeal tuberculosis is stated to be from thirty to forty per cent. My experience in a large tubercular institution in Colorado would lead me to give a much lower ratio for true tubercular involvement of the larynx, and a much higher ratio for all laryngeal complications of tuberculosis. "Rice has shown to what extraordinary conclusions one may be turned by statistics. The author finds that one-fourth of all death certificates show pulmonary phthisis, and since statistics show that the larynx is in a similar condition of disease in almost one-third of the cases, he comes to the conclusion that one-twelfth of all patients who come to treatment suffer from tuberculosis of the larynx." —(*Cornet.*)

I can corroborate Schauffer's observations upon the frequency of paresis in a vocal cord occurring as a complication of phthisis. The paresis is often slight and only discoverable by a comparison of the movements of both vocal cords. This condition seems to be a not infrequent cause of voice impairment. I recall one case in a man of forty who, in a very early stage of pulmonary tuberculosis, entirely lost his voice so that he could not talk above a whisper. A laryngoscopic examination revealed both vocal cords immobile in the cadaveric position, proving the paresis to be bilateral. Excepting for a slight amount of congestion and redness, the larynx appeared normal otherwise.

Unilateral paresis of a vocal cord generally occurs upon the side corresponding to the lesion of the lung, and is undoubtedly caused by pressure upon the recurrent laryngeal nerve, by the diseased lung or bronchial glands. This condition predisposes to the invasion of the affected cord by tubercle. The infected sputum, lodging upon the immobile vocal cord, is not easily removed, and the tubercle bacilli have a better opportunity of finding lodgment in the cord. This fact explains why tuberculosis of one vocal cord usually occurs

upon the side of the more affected apex, as pointed out by Schuffer.

Laryngeal tuberculosis is a grave complication of phthisis. The first symptoms are subjective, and commence with a slight huskiness or hoarseness, which is not constant, but may appear and disappear with the weather. The voice seems gruffer and lower in pitch than ordinary. The patient often feels a teasing, itching, tickling sensation in his larynx. One patient expressed the sensation thus: "I feel as if I would like to scratch the inside of my throat with my nails." Generally there is also a dry, irritative cough.

Symptoms like these should call one's attention to the throat, and a laryngoscopic examination should be made. Upon careful inspection the mucous membrane may appear unusually pale, and of an "ashen gray" color, which is held to be almost pathognomonic of beginning tuberculosis of the larynx. More often as my experience goes, the mucous membrane will appear reddened, as in catarrhal laryngitis. More important from a diagnostic standpoint is the occurrence of any swellings or infiltrations, generally in the interarytenoid space, or in the arytenoepiglotidean fold, or on the epiglottis. A careful comparison of both sides of the larynx will aid in the discovery of any abnormal infiltrations, for in the beginning the lesions are generally unilateral. Later as the disease progresses the infiltrations break down and ulcers are the result. On the margin of the true vocal cord these often produce a characteristic jagged appearance like the teeth of a saw. Sometimes there is crusting and scabbing over the ulcerated areas. This makes the prognosis somewhat better.

On the whole, laryngeal tuberculosis is a serious matter, and death is the usual termination. Recovery, however, is not impossible, and I have seen at least two cases where this has occurred. One of these presented the physical signs of a right apex involvement in the incipient stage, with an unmistakable ulcer on the margin of the right vocal cord. He received the usual hygienic and climatic treatment of Colorado as well as local treatment to his larynx, consisting of lactic acid applications in gradually increasing strengths. The improvement in his throat kept pace with the improvement in his lungs, and after three months only a faint scar was to be seen at the site of the former ulcer. The voice remained somewhat deeper and huskier than in its healthy state.

In view of the great frequency of throat complications in pulmonary tuberculosis, it is imperative that each case of evident or apparent phthisis be kept under the observation of a competent laryngologist. The internist, unless he is exceptionally familiar with the larynx, does not as a rule pay much attention to it. But it would be for the patient's benefit if this were done frequently.

32 Adams Ave. W.

Attitude of Corporations Toward Employees

John F. Culp, Harrisburg, Pa., states that the proper attitude of a corporation toward its injured employees is the desire of the corporation that they should get well as soon as possible and that it will assist them in doing so, both for its own sake and for theirs. An example of this attitude is seen in the practice of a corporation by which the author was formerly employed. All medical and surgical attendance was assumed by the company, and the support of the family was assured by payments of a part of the normal wages of the man. In case of death a pension was given, and the children were sent to industrial schools until the age of sixteen, when they were supposed to be able to take care of themselves. As soon as work was possible for the injured man, work that he could do was found him. The first consideration was his need; the second, his fidelity and time of service. During twenty-two years there have been 20,000 accidents among the employees of this corporation with but eight suits for damages.—*Medical Record*, July 8, 1911.

PELVIC TUMORS IN THE FEMALE*

WITH ESPECIAL REFERENCE TO DIAGNOSIS

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Detroit, Mich.

The cordial invitation of your Secretary to address you to-day conveyed an honor and imposed a responsibility. For the former I desire to express my appreciation; the latter I shall attempt to discharge by calling your attention to a subject of no little importance and interest, for every practitioner is liable in daily routine to encounter pelvic tumors, the detecting and differentiating of which may test his utmost skill and diagnostic acumen. The pernicious dictum, accredited to Mr. Lawson Tait, "when in doubt operate," has done much harm and brought much discredit to the profession and has no place in modern rules of practice. For the weaklings in medicine, lacking most in training and experience, are those who take advantage of such advice and, being oftenest in doubt, oftenest rush to surgery for a diagnosis which should have been carefully worked out beforehand.

As on the correct, or approximately correct, determining of the disorder with which we have to deal depends the future welfare of the patient, failure to bring to each case the most thorough scrutiny and investigation has, in the present day, no extenuating excuse. When resort to surgery must be had we should operate for definite and known conditions, and the instances in which surgical procedures are undertaken to clear up a doubtful and uncertain diagnosis should be so comparatively infrequent as to be almost negligible. From somewhat extensive observation I am sure that mistakes and failures in ascertaining the true nature of disorders, for the relief of which the patient consults the physician, are frequently and largely due to the omission of two things,non-observance and the study of the patient as a whole, and the neglect of careful history taking. Many years ago Sir George Humphrey enunciated the formula, "Eyes first and much, hands next and little, tongue not at all," which, in the main, is a good working rule. By close and critical observation much may be learned of the patient's condition before she has uttered a word, so that after this, the history and the physical examination, the diagnostic trinity, logical deduction should lead to reasonably correct diagnosis. It is to be feared that many errors result from improper reasoning and the assigning of too great importance to conspicuous but trivial manifestations, for, as Lockwood says, "The absence of a logical training is . . . one of the greatest defects in preliminary medical education." Writing in 1770, that wise old chirurgeon, Ambrose Bertrandi, states that the surgeon must "see into the whole body and on all sides with the eyes of the mind" and that "it is not of much importance to know the position, the connections and the form of a part if one does not know the use, the correlation of mechanism and the action." For anatomy, he adds, should be "reanimated, in order that the living man, who is the subject of our art, may be as well known as the cold and lifeless body." "Sizing up" the

*Read before the Saginaw and the Monroe County Medical Societies, 1911.

patient as she enters the consulting room, sits on a chair or lies in bed, gives a clue to the possibly existing disorder, and directs attention toward the solution of the problem presented. The gait and holding of the body while in motion and the conformation of the abdomen may suggest the presence or absence of pregnancy or tumors; of sensitive regions made painful by muscular action or pressure; or, as she lies with knees drawn up, to an acute or chronic abdominal inflammation or its resulting adhesions. The nutrition of the patient also tells its story. The usually healthy, well-nourished individual with benign growths and beginning malignancy; the conspicuous emaciation, from the ravages of cancer in its later stages, or of ovarian new-growths of size and long standing, are exhibits strikingly familiar.

Commenting on this, Lewers observes, "Nothing could be more fallacious than to suppose that a patient is not suffering from uterine cancer because she looks well, and maintains, or is even increasing, her weight." Whatever her appearance, he says, if she "complains of the symptoms in question (of cancer) and is known to have had five or more children, the probability that she may be suffering from cancer of the cervix is thereby distinctly increased."

The expression of the countenance is always suggestive; unchanged or "contented" in so-called harmless neoplasms, it may depict every degree of anxiety, fright and despair in cases of severe pelvic disease and malignancy, while with the large and rapidly growing ovarian cyst the features assume that "peculiar pinched expression" to which attention was called by Sir Spencer Wells under the term "*facies ovariana*"

The color of the skin of the face is often characteristic: unchanged, suffused or reddened in harmless pelvic new-growths; pale yellow to chalky in the anemia from hemorrhage in bleeding fibroids; or presenting the pale-yellowish-brown tint of the cachexia of cancer. As pointed out by Veit, the facial skin may often appear slightly edematous, most marked in a mild puffiness of the lower eyelids, when uterine fibroids are present. Chloasmata and skin discolorations are not infrequently seen in women suffering from pelvic disorders, and the dark circle around the eyes is as often indicative of local as of general disturbances.

As no one in active practice can carry in mind the details of his patients' various disorders, especially after the lapse of time, the importance of systematic case-history taking cannot be too strongly emphasized. As has been well said, diseases do not usually appear systematically arranged, as in a textbook, but more often present at an angle, with one or more, often misleading, symptom in the foreground, so that the physician must reason out and by inquiry get back to the obscure but more momentous processes which have developed in the case. Not only do carefully written notes furnish a chart of the present and past condition of the patient and the symptomatology of her ailment, thus rendering essential aid in determining the diagnosis, but they serve a useful purpose in furnishing comparative data for future reference, and refresh the memory as to treatment and the results obtained. They are also of much value in pointing out the mistakes or successes in diagnosis in cases which progress to recovery or fatal termination, or which come to operation.

Moynihan calls attention to the great importance of ascertaining the inaugural symptoms, in order that it may be determined at what point in the course of the disorder operative intervention will give the best chances for relief and cure before more serious morbid changes have taken place which render the outcome of the surgical procedure uncertain or the treatment futile. And he further shows that the study of the pathology of the living is of vastly more

importance to the living than the investigation of the terminal results of disease as found in the dead.

In obtaining the anamnesis, while it is desirable to let the patient tell her own story, undue importance must not be attached to statements made until they have been verified by physical examination. For many of the patients with whom we have to do are of nervous temperament, hysterical or neuropathic, and symptoms of small moment are often exaggerated while important points, because they have been less noticeable in causing pain or presenting visible signs, are forgotten, lightly passed over or ignored.

As illustrating the value of the case-history, two patients upon whom I have recently operated furnish illustration.

CASE I. A married woman, aged forty-three, never pregnant, consulted me March 14, 1899, for a variety of general and pelvic symptoms. At this time the uterus, which had been retroverted, was in normal position and not enlarged, but there was an almost imperceptible bulging of the right uterine horn. In October, 1906, the conditions remained essentially the same. In April of the present year (1911) she returned with many of the old complaints and a history of "smothering spells," which were among the earliest symptoms. The uterus had increased to the size of two fists, and a growth, as large as a small flattened orange, occupied the right side of the organ posteriorly. A diagnosis of multiple uterine fibroids was made.

At the operation, enucleation of the tumors was attempted, but on account of their adherence, due to inflammatory changes, the thickness of abdominal wall and depth of pelvis, this had to be abandoned and supravaginal hysterectomy performed.

CASE II. A married lady, aged thirty-six, the mother of two children, the last born seven years before, was seen in consultation with Dr. W. R. Chittick February 28th, 1907. At this time curettage was done for a persisting menorrhagia. The uterus was normal in position and size. The following month it was noted that while the body of the uterus remained unchanged the fundus was slightly enlarged, smooth and rounded, due to the presence of a small intramural fibroid. The uterine cavity measured *three and one-half inches*. In April of the same year, the bloody flow continuing, curettage was repeated and a laceration of the cervix repaired. By April 8, 1911, an enormous increase in size of the uterus had taken place, the fundus now being only three finger-breadths below the umbilicus. The organ was in the middle line and freely movable, the cavity measured *seven inches*. To April 13, abdominal hysterectomy. The uterus, the size of a child's head, was quite soft, and the tumor occupied the greater portion of the organ.

In these two cases but for the notes taken at different times no tally could have been kept of the patient's condition, nor would it have been possible to have determined to what extent growth had taken place in the tumors within the periods mentioned.

In estimating the value of symptoms, familiarity with and experience in the natural history of pelvic new-growths is of much importance, and one best posted in this respect will have less difficulty in detecting the nature of the presenting neoplasm. In every instance, whether in the single or married woman, the history of abdominal enlargement should always suggest the possibility of pregnancy, and this idea should be maintained until thorough physical exploration has positively excluded its presence. I was once caught napping and overcredulous in trusting to the statements of a supposedly respectable and innocent young unmarried woman. After a hasty and superficial examination a diagnosis of ovarian cyst was made. To my chagrin, on opening the abdomen, a five months' pregnant uterus revealed the true nature of the tumor. In the instance of a seventeen year old girl who had been sent by her physician from an up-peninsular village to the city for confinement, the indefinite story of an indiscretion committed nearly a year before was sufficient to discredit the diagnosis, while a single look at the abdomen as she lay in bed was enough to confirm the suspicion of error, which was subsequently verified by examination. I removed a twenty-five pound ovarian cyst from the

patient a few days later; but it was harder work to convince the home folks that she had not had a baby than it was to do the operation. It is difficult to arrive at satisfactory conclusions regarding the frequency of pelvic neoplasms, since statistics emanating from hospitals where large numbers of these cases are sent for operation do not fairly represent the actual number met with in private as well as in public practice. Could private records be added to those from institutions, there would probably be a considerable change in the percentages as now given. Mortality statistics from large cities are open to the same objections and fall under the same category. Many tumerous conditions may exist during a lifetime without giving rise to sufficient trouble to direct the patient's attention to them, and the host may perish from other diseases, the presence of the growth being still undiscovered.

In 9227 females affected with tumors of various kinds, Roger Williams found that 28.7% of the growths originated in the uterus, and only 8.7% in the ovaries. Broad ligament cysts and tumors of the round and ovarian ligaments were presumably not included. Of the number in which the growths were uterine Williams found,

Cancer in	1,571
Sarcoma in	2
Myoma in	883
Polypus, non-myomatous, in	191
Cystoma in	2

By this it will be seen that the ratio of malignant to non-malignant new-growths in the uterus is 59.38% as against 40.62%. While cancer of the uterus is known to exist to an alarming extent, I feel quite sure from my own experience that the figures just quoted do not adequately represent the real facts, the frequency of fibroids, for instance, being placed much too low. From my own records I obtain the following approximate percentages: for fibroids, 62; for cancer, 8; for ovarian cysts, 11; for intraligamentary cysts, 6%. While taken from far too small a number of cases to be of particular value, these figures probably come nearer in representing the number of pelvic new-growths as met with in private practice.

Pain in connection with pelvic tumors is variable in its expression. A patient may carry a fibroid of considerable size for years without inconvenience or knowledge of its existence, and the growth may be discovered only by accident during an examination for other conditions. In investigating an umbilical hernia referred by Dr. C. W. Hoare, of Walkerville, I once discovered a tumor of this nature which must have grown old with the patient, but of the existence of which she was ignorant. The pedicle was long and thin, the patient fat, but the tumor weighed seven pounds. Another patient, a domestic, knowing that she had a swelling, which, however, was symptomless, requested to have it removed because it was in the way when she leaned up against the washboard. Interstitial and submucous fibroids, especially fibroid polypi, frequently give rise to much suffering, oftener during menstruation, when attempts are made by the uterus to extrude the growth, the colicky pains resembling those of abortion or childbirth. Many cases of persistent dysmenorrhea are due to small projecting fibroids or polypoid growths which are frequently overlooked. In one patient painful menstruation and interval pain was caused by two or three small submucous tumors situated in the uterine fundus and barely jutting into the cavity. Dilatation of the canal and incision of the tumor capsule entirely relieved the symptoms. In such instances the pain is undoubtedly due to tension,—the tumor enlarging without corresponding growth of the surrounding parts which, especially the peritoneum, are put on the stretch.

Fibroids springing from the posterior uterine wall, or carrying the uterus back-

ward in retroversion or retroflexion so that it impinges upon the rectum, may give rise not only to constipation and hemorrhoids, but also to painful defecation. Developing anteriorly, such growths by pressure on the bladder occasion dysuria and, rarely, retention of urine. In a case referred to me by Dr. Charles T. Southworth, of Monroe, in which a fibroid was known to exist, the pressure of an anterior boss against the neck of the bladder caused retention of urine for twenty-four hours, accompanied by great suffering. The passage of a catheter, which was accomplished with difficulty, relieved the situation, and also led the patient to consent to a hysterectomy.

Beside the pains resulting from pressure on surrounding structures, incarceration of a fibroid below the sacral promontory and torsion of the uterus or the pedicle of the growth may give rise to severe pain, the result of the induced peritonitis.

The structure, position and function of the ovary render it liable to a considerable number of cystic changes, hemorrhage into its follicles, and new-growth formations. Small tumors may remain symptomless, attention being called to their presence only when by increased growth they rise out of the pelvis. Sometimes the patient complains of a feeling of pelvic weight and discomfort on the side of development, with sacral backache and pain radiating down the leg. Occasionally I have noted a unilateral pain in the vagina, beginning at the introitus and running upward, with extension to the leg of the corresponding side. Intraligamentary cysts and tumors give rise to pain from tension and the splitting of the leaves of the broad ligament as they increase in size, and by the formation of adhesions to neighboring parts.

All pedunculated intra-abdominal tumors, dermoid cysts and solid growths of the ovary in particular, are liable to twisting of the pedicle. Acute occurrences of this nature are manifested by the sudden onset of sharp severe abdominal pains, rapid pulse and fever, generally accompanied by vomiting, constipation and marked physical prostration. If the pedicle torsion takes place more slowly, the attacks of peritonitis and the general symptoms may be less severe, but are likely to be repeated at intervals. In a case on which I recently operated for Dr. Arthur Griggs, of Saginaw, a fibroid uterus was associated with a dermoid cyst the size of a cocoanut. The patient was known to have carried the uterine tumors for some years, but the repeated attacks of peritonitis could be explained only by the presence of the dermoid, the pedicle of which was twisted one and a half turns. Ileus and rupture into the bladder or intestine are also occasional sequelae of pedunculated cysts, and give rise to pain corresponding to the acuteness of the condition.

Of all the pelvic new-growths in which pain as an early symptom would be of greatest service and value in calling attention to the condition, thus leading to timely examination and the prompt inauguration of life-saving measures in treatment, cancer in its incipiency stands out pre-eminent by the absence of this sign. When pain is complained of in the course of cancerous development, it usually marks the extension of the disease beyond the uterine borders, and the invasion of neighboring organs and parts. The cervix uteri being only slightly sensitive, extensive destruction of its tissues may take place without the suggestion of pain being present, and it is only, as a rule, when the parametrium, the bladder or the rectum become involved that pain begins to be experienced. Occasionally a cancerous node which occludes the os or cervical canal or presses on a nerve trunk or plexus may give rise to pain somewhat earlier in the course of the disease, but this is rather exceptional. Simpson pointed out, in 1864, a symptom which he considered pathogno-

monic of carcinoma of the uterus body and fundus. This consists in the daily recurrence of intermittent paroxysms of pain which sometimes lasts for hours, and may be "so intense as to cause the patient to groan continuously or scream aloud." This symptom has been confirmed by Ruge and Veit in certain cases, and appears to be due to the contractions of the uterus in attempting to expel the growth when this has assumed a polypoid form.

It must not be forgotten that in occasional instances where local symptoms of uterine cancer are wanting the pelvic disease may be manifested in mammary pain of greater or less severity. While cancer of the ovary is well known to occur, in the majority of instances, as a secondary invasion, and that dermoid cysts of this organ are particularly prone to malignant degeneration, I am not aware that pain is a marked symptom except as it arises in the developmental course in all ovarian tumors. In a recent case, age thirty-seven, referred by Dr. M. L. O'Connor, and in which primary carcinoma of the right ovary, with metastatic growth in left ovary, omentum, and pelvic glands existed, the patient was suffering from adhesive peritonitis and was so sensitive that proper examination was rendered impossible. The diagnosis had to be made from the history and subjective symptoms, which apparently pointed to the presence of a degenerating fibroid or an adherent cyst, the pedicle of which had undergone rotation. The pain incident to the rupture of an ectopic gestation sac is usually put down as coming on suddenly, of great intensity, of a lancinating, tearing character, and is often followed by physical prostration, even in cases where the hemorrhage is only slight. It is, however, not always of this type, being sometimes so little as to hardly attract the patient's attention. Moreover, this symptom may be closely simulated in other conditions, as when the sudden onset of the pain is caused by torsion of the pedicle of a stalked growth.

In a case in which all of the subjective symptoms of extrauterine pregnancy were present, I found that the condition was due to tuberculosis of the appendages and adjacent peritoneum.

Hemorrhage as a diagnostic symptom of pelvic tumors is of considerable importance. With uterine fibroids it is usual in the submucous and pedunculated varieties; it is less often met with in the purely interstitial tumor, and is least often seen when the growth is subperitoneal. The blood loss may take place at the regular menstrual periods in an augmentation of the flow, (menorrhagia); it may occur during the inter-menstrual gap; or it may be continuous, the discharge being only slightly diminished from one monthly catamenia to another (metrorrhagia). At any of these times the blood loss may be excessive, depleting the patient and leading to an acute anemia, or the flow may be so slight, more like seepage, or show in occasional spots, that the patient is not at first seriously affected and continues with good color and without sign of effects.

In my experience ovarian cystoma do not often exert particular influence on the menstrual function, save at times to give rise to amenorrhoea. In exceptional instances they may occasion a bloody discharge from the vagina which rarely may amount to hemorrhage. In cases which I have met with this has mostly occurred in women who have passed the menopause.

In cancer, hemorrhage or some loss of blood is usually the first intimation which the patient has that something is wrong. Bleeding is not, however, always a prominent symptom, being slight and perhaps even absent until the very latest stages of the disease, as in the scirrhous forms of the growth.

When an increase of the monthly flow

takes place at the climacteric, or a (supposedly) return of menstruation occurs following the establishment of the menopause, the sign should be looked on with much suspicion. Stratz calls attention to the fact that a discharge of blood following coitus may be indicative of malignant changes in the cervix; and it is well known that when this is present any severe bodily exertion, straining at stool in constipation, etc., may precipitate a flow. On account of the insidious nature of cancer, its great prevalence and fatal outcome, and the curability of the disease could it be dealt with in its earliest stages, it is the duty of the physician to warn his patients of the dangers of procrastination when symptoms of any kind, and especially pudendal bleeding, attract attention to the pelvic organs. Could every woman of the age of thirty and over be compelled, by legal enactment, to submit to local examination by a competent physician at least as often as once every three months, and malignancy so discovered be promptly dealt with according to modern surgical methods, cancer of the uterus and adnexa would soon become shorn of its hideous aspect and sink to the least of all surgical disorders in mortality statistics.

I shall not attempt to discuss the many points which might be taken up in regard to the physical examination, but will call attention to one or two matters which, it seems to me, are not sufficiently appreciated or at least do not appear to be carried out with any regularity in practice. In determining the pelvic condition, it is not enough to make a combined examination and with the hand underneath the woman's clothing attempt to palpate the abdomen. Before anything else is done the belly should be bared from ensiform to pubes and a systematic search made for whatever may be wrong below the parietal covering. Before a hand is laid upon the abdomen a careful inspection of the latter should be made and all discolorations, enlarged superficial vessels, scars and surface abnormalities carefully noted. The general contour of the abdomen should then be observed, whether it is regular or projecting at certain points, and whether at these places the upper limits seem to rise and fall or the prominence remains fixed during natural respiration or on deep in- and expiration. With free ovarian cysts no movement of the umbilicus is seen, but the movement is more or less marked when adhesions to the abdominal wall have formed. It should be observed whether the abdomen is regularly and symmetrically enlarged, as in ascitic accumulations; whether the upper limits of the swelling slope gradually toward the epigastrium, as in pregnancy, or fall off abruptly, as in fibroid tumors; or whether the prominence is broken into more or less regular projections or is developed on one side of the median line more than the other, as in multilocular ovarian growths, etc.

A projecting umbilicus with open ring is almost always indicative of free fluid in the abdominal cavity.

In all cases of abdominal enlargement, careful measurements will afford considerable information regarding the presence of ascitic fluid, and the side from which the new-growth has probably developed. When ascites is present, the greatest girth is found at the level of the umbilicus; with ovarian tumors it is usually below this point. Measurements are taken from pubes to umbilicus, from the latter to the ensiform, and from the anterior superior spine of the ileum to the navel, on each side. Following mensuration the abdomen should be carefully palpated and the presence of sensitiveness and tumors or displaced organs determined. In doing this it is well to have a general plan of procedure, and not to press indiscriminately over the whole abdominal surface. My own method is to begin at the

left hypochondrium and follow down the colon, pass across the hypogastrium and proceed upward along the ascending colon to the right lower ribs. In this way all of the abdominal organs are gone over, and changes in position and size noted. Pressure at the various points which are supposed to indicate involvement of the appendix, the sexual apparatus, stomach, duodenum, and the lower colon should be systematically carried out, and the mobility of the kidneys determined. Following this the abdomen is percussed and ausculted. Last of all, bimanual examination of the pelvic organs is made.

Incidentally it may be mentioned that ascites accompanying an abdominal tumor is almost always significant of malignancy. Hydroperitoneum is very rarely met with in the presence of uterine fibroids; is frequently present with ovarian dermoids, and, in my experience, is always associated with papillary proliferous ovarian cysts.

32 Adams Avenue West.

SURGICAL SUGGESTIONS

(*American Journal of Surgery.*)

Septic endocarditis may result from a localized osteomyelitis that has gone on to spontaneous cure.

Don't abandon a case of sarcoma as incurable without a thorough trial of Coley's fluid. The results are sometimes remarkable.

Broad sessile warts are best removed by the application, under water, of the Oudin high frequency current by contact with the tip of an insulated copper conducting cord.

Eversion of the foot, shortening of the extremity, elevation of the trochanter, spell fracture of the neck of the femur. Manipulation is unnecessary to the diagnosis.

When dealing with blank cartridge injuries, no consideration for the integrity of the muscles should limit the thorough exposure of every part of the wound; but the larger vessels should be, and the nerves must be, spared.

In post-operative or other simple retention of urine, even if such devices as enemata, hot water bag over the bladder, the administration of spiritus etheris nitrosi, dipping the hands in hot water, and producing the sound of running water, fail to provoke micturition, catheterization may often be obviated in the female by the simple trick of placing the patient on a well warmed bed-pan in which has been poured a little spirits of turpentine.

The history of typhoid several years previously will explain many cases of otherwise obscure localized bone abscess. The perforating cortical ("shirt stud") abscess is characteristic of typhoid infection.

It is well known that trauma may determine a virulent octeomyelitis, requiring prompt attention. It is not so well known that it may determine a milder type of bone infection that soon recedes without operation. The former is most often met with in children, the latter in adults.

The old treatment of fracture of the neck of the femur by Buck's extension is as bad as it is archaic. In all but very old and very feeble subjects reduction and fixation in plaster by Whitman's method is the treatment of choice.

What appears like a mild cellulitis or beginning erysipelas following a rat bite is apt to be the local manifestation of a "rat-bite fever."

Even in the absence of a suggestive history, one should bear in mind the possibility of a foreign body as the cause of localized pain, tenderness, inflammation or impaired function, when the cause cannot otherwise be determined.

Needle thrusts are often only slightly painful and thus it occasionally happens that there is buried in the tissues a fragment of needle, the entrance of which the patient did not appreciate or has quite forgotten.

FRACTURES*

C. H. SAMPLE, M. D.
Saginaw, Mich.

During the past twenty years there have been but few new books published upon the subject of fractures. The Journals have given scant space to the subject. They are given over to articles upon abdominal or cranial surgery, or operations upon the thyroid glands or the prostate,—surgical conditions that the general practitioner can do but little with, for the lack of facilities. By far the most important part of the general practitioner's surgical work will be the treatment of fractures and dislocations,—important because upon his skill will, in a large measure, results depend. He must meet the emergency and be prepared to act at once. Again will the doctor be reminded of the importance of fractures when he is hurled into court to defend himself against an action for damages. About 75% of the damage suits brought against physicians are on account of alleged improper treatment and bad results in their handling of fractures. A deformed limb, after having been treated by a physician for fracture, will easily cause a verdict in favor of the plaintiff. I call your attention to this to impress upon you the importance of this branch of surgery. Whenever you undertake the treatment of a fracture, you, in a measure, take your reputation in your hand. Every fracture, however simple, should be handled with exceeding care. Diagnosis is not always easy. In making a prognosis, always be guarded. It is much more satisfactory to have results better than you promise.

In a short paper I can call your attention to only a few of the more important points connected with the treatment of fractures. Apposition, retention, and rest are the three points necessary to the attainment of a good result. It would hardly seem necessary to mention the fact that in trying to make a diagnosis the injured limb should be carefully handled. I have more than once seen a simple fracture converted into a compound fracture by rough handling. No less care should be exercised after a patient is under an anesthetic. A history of the accident, the patient's sensations and history of previous accidents, should be obtained; then careful inspection of the limb should be made. Preternatural mobility and bony crepitation are the two most positive diagnostic signs of simple fracture.

Before dressing a fracture, the injured limb should be made surgically clean. If there is much difficulty in reduction, an anesthetic should be given. If crepitus is absent, it is probably due to some of the soft-tissues getting between the ligaments. The ends of the ligaments may be disengaged by manipulation. If this is impossible, then an incision should be made converting the simple fracture into a compound one; the ends freed of intervening tissues and brought together. If there is a liability of difficulty in keeping the bones in apposition, they should be

*Read before the Tuscola County Medical Society, March, 1911.

drilled and held together by wire or other suitable material. I have used chromo-sized catgut instead of wire, and have had good results. If silver wire has to be removed, you are liable to experience considerable difficulty in doing it, whereas the catgut does not have to be removed. If there is impaction, the impaction should always if possible be broken. In doing this you will obtain a much better result.

Your first dressing should be as simple as possible to meet the indications. In fracture of the shaft of the bone in the fore arm and leg, the dressing should include the joints above and below. If a fracture is complicated by a dislocation, apply splints to the fracture before attempting a reduction of the dislocation. Never bandage a limb before applying a splint. Have splints well padded with sterilized cotton,—absorbent cotton will not do. The splints should be just tight enough to retain the fragments in apposition (not tight enough to obstruct circulation). A lower limb will bear a much firmer bandage than an upper one, on account of the venous circulation. In the arms the veins are more superficial. The limb should be examined every twenty-four hours for the first five days, and dressing adjusted if necessary. After the first week gentle massage of the joints adjacent to the fracture should be practiced every day. Splints are as a rule retained too long. An equally common fault is in removing them too early. Frequent inspection of the limb will determine the time to remove them. Immovable dressings, in my opinion, should not be applied early. If plaster of paris or similar substances are used, they should be applied in a way that they can be easily removed.

After permanent removal of retention apparatus, the treatment of a fractured limb is not complete. Massage of the limb should be practiced daily until the joints, muscles and tendons are perfectly flexible. This should not be entrusted to unskilled hands. It should be done by the surgeon or a skilled assistant. To get good results from massage, the splint should be removed early, and extreme care should be observed in its application.

I have not as yet alluded to the X-ray in the diagnosis of a fracture. The X-ray apparatus is not always at hand. If at hand, it is not infallible. A picture to be useful must be taken by an expert. In doubtful cases it should be used if possible. If circumstances permit, it should be used in all cases. In comminuted fractures all small pieces of bone should be removed. Larger fragments should be placed in position if possible, and retained by wiring. If the fracture is complicated by injury to the blood vessels, they should be ligated above and below the point of injury. Severed muscles, tendons and nerves should be sutured. It is hardly necessary to say that the wound should be freely opened, so as to make all injured parts readily accessible. The operation should be done under strictly antiseptic conditions. Drainage should be used if necessary, and usually it will be necessary. Dressings should be applied so as to make the wound easily accessible.

A brief allusion to some special fractures may not be out of place. Fracture of the olecranon, patella, and neck of the scapula are never satisfactorily retained by splints of any sort. I think as a rule they should be wired, and then splinted or not, as the operator thinks best. Some fractures of the clavicle and fibula are more successfully treated in this manner. It is an open question whether a splint is necessary in the treatment of Colles' fracture. It is a fracture that is seldom properly reduced. Impacted fragments are not separated and put in proper junction. If properly reduced, there is very little danger of displacement. Sir Astley Cooper

called attention to the proper reduction of the fracture and placing the arm in a sling as the best form of treatment. Many splints and dressings have been devised, and all have their advocates. More or less stiffness and deformity frequently follow this fracture. Some surgeons assert that splints and dressings are more likely to cause stiffness and deformity than to prevent it. I have almost invariably used S. M. Moore's dressing. Donald Maclean discarded dressings entirely. His results were as good as any I have ever seen. This form of treatment was denounced by Frederick Hamilton as unsurgical and not worthy of consideration, yet I did not observe that his results were better than those who used no dressings. In my opinion proper reduction and support in a sling reaching to the wrist, and frequent massage, is likely to give as good result as any treatment.

In concluding I will present for consideration some material that I have used in the treatment of simple fractures during the past twenty years. It has proved quite satisfactory, is easily obtained, is clean, always ready, and easily applied. The coaptation splints are easily constructed, with materials always at hand, and easily applied when applicable at all.

FRACTURE OF THE PATELLA WITHOUT SEPARATION

More than any other joint-region in the body—not excepting the shoulder—that of the knee is subject to a variety of painful affections. And as these pains are more common than in the other joints, so are they more elusive of anatomical interpretation. Indeed, in many instances of "pain in the knee," especially those that arise spontaneously, one may be at a loss to determine whether the lesion lies within the joint, in one of the structures about the joint, or even in some tissue more or less remote. To be sure, a serous joint effusion strongly suggests an intra-articular disturbance, but that evidence, by itself, is not always conclusive; synovial crepitation, too, may lead the way to the diagnosis, but it is often a deceptive sign. It may be found equally marked in the opposite knee, and it is not uncommon in individuals suffering no disability whatever.

In the more serious affections of the knee, fracture, displaced cartilage, neoplasm, inflammatory processes, the X-ray will declare the lesion, often very definitely. But, unfortunately, in those more common minor painful affections to which we have referred, skiagraphy is usually of little or no service. It is always worth while, however, to secure an X-ray picture, both because it is of value to know that it reveals no unsuspected lesion and because, once in a while, it does demonstrate a quite unsuspected process.

We would call attention here especially to one type of injury in which only the radiograph may establish the diagnosis—transverse fracture of the patella without separation of the fragments. Stimson* says that only "in rare, entirely exceptional cases the fibrous covering of the bone may remain untorn." No doubt this type of patella fracture occurs only occasionally, but its incidence must be more frequent than its recognition. A. E. Johnson reports three cases in *The Lancet*, January 12, 1911. In all of his cases there was but little disability and the X-ray made the diagnosis.

Occurring by muscular violence in much the same manner as might a sprain, and presenting as signs and symptoms only pain and moderate disability and effusion, transverse fracture of the patella without rupture of its fibrous envelope should be borne in mind as a possibility when one is dealing with what appears to be merely a sprain of the knee. In spite of the absence of separation and of marked disability, the recognition of the condition is of great importance to the patient, since it determines the necessity for immobilization and recumbency to avoid possible tearing of the aponeurotic covering of the bone and its lateral expansions.—Walter M. Brickner, *American Journal of Surgery*, April, 1911.

*"Fractures and Dislocations," fifth edition.

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SEPTEMBER

EDITORIAL

FORTY-SIXTH ANNUAL MEETING

THE program for the 46th Annual Meeting of the Michigan State Medical Society is published in this number, and we respectfully invite your attention to it. The secretaries of Sections have labored earnestly and are justly proud of the scientific entertainment provided. Oftentimes their labor has been the disagreeable one of declining papers on account of the program being already full.

The popularity of our annual meeting is becoming more manifest each year by the large number of applications for place on the program that cannot possibly be filled within the time limit.

Probably the coming meeting of the State Society in Detroit will be very largely attended, and in expectation thereof the committee in charge are making very elaborate arrangements for the comfort and entertainment of visiting members. Automobiles will meet all trains on the afternoon and early evening of September 26, to carry members and their ladies to their hotels. All section and general meetings are held at the Hotel Pontchartrain, on the large convention floor, where a most instructive scientific exhibit will be shown instead of the customary commercial exhibit.

For entertainment, the Committee on Arrangements offers an open house at the Wayne County Medical Building the evening of September 26, a reception with refreshments and vaudeville, evening of September 27, at Hotel Pontchartrain, and automobile rides for all visiting ladies.

The scientific program is very attractive, and with the above-mentioned social features should entice nearly every man from the State to come and bring his wife.

To you all, the Wayne County Medical Society extend a most cordial welcome.

MEDICAL DEFENCE IN MICHIGAN

THE Secretary is frequently asked, Is the State Society actually defending its members in malpractice suits? To date, twenty-eight cases have been reported to the committee, eleven for 1910 and seventeen for 1911. Of these, eight suits have been started, one tried, lost, and appealed. Some of the others will go to trial, but not all. We are handling every case where men are entitled to defence; have advised settlement instead of litigation in five cases, and in three this advice has been followed without any money damages; one is still under consideration, and in one an insurance company paid the amount asked.

Probably most of these cases originate from some criticism of result by a competitor. Given an unsatisfactory result, an attorney is easily found who is ready to threaten the doctor, but does not sue on speculation unless supported by medical testimony.

Jan. 1, 1910, the Michigan State Medical Society began defending its members against suits for malpractice. The first year two or three of our counties failed to avail themselves of this feature of the Society work, and one man, at least, from one of these counties was compelled to make his own defence. Beginning Jan. 1, 1911, the defence feature of the Society work was extended to every member in good standing in the Society.

In four 1910 cases and three 1911 cases the defence fund was not liable. Two were started before our work began and five were in arrears. Of the first two one was tried, with verdict of no cause of action. Of the five in arrears so far one case has gone to trial. We have offered to handle all these cases on a guarantee by the doctor to pay the cost of trial, and in the one case tried, assisted materially in the prepaiation of the appeal.

An important feature of our plan of Defence for civil malpractice is that we defend any case, no matter when the cause of action occurred, with the exception that no case will be defended if the cause of action occurred while the member was in arrears for dues after June 1st of any year. In other words, if a member who has not yet paid his dues, has a fracture case on June 2nd, or September 1st, or any other date after June 1st, and the dues are still unpaid, any malpractice suit growing out of that case will not be defended by the State Society. This provision is manifestly fair, for we cannot do business without collecting these dues, and the time to pay them is the beginning of the year, or the last of the year previous. Considering the prevalence of malpractice suits, it behooves all our members to keep their dues paid promptly. Five cases have come to our attention so far against men in arrears. Attorneys will soon learn, if they have not already done so, that the man in arrears is the easiest prey.

A very large part of our cases are fracture cases. We know of three fracture cases tried in this State the past year, and in all a jury gave damages. On any question of fact caused by a discrepancy in testimony of plaintiff and defendant, a case is apt to go to the jury, in which case a verdict against the doctor usually results.

In 1910 we had four fracture cases, and ten in 1911, besides two dislocation cases—sixteen in all. More than half of the cases brought to our attention have been from fractures or dislocations, showing the danger to the doctor in this class of work. Would it not be well to always insist upon counsel in such cases?

Often we hear the statement that malpractice suits occur mostly in large cities, but ours have been differently distributed. By Councilor districts they are:

1st district, 14 cases; 3rd district, 1 case; 4th district, 3 cases; 5th district, 2 cases; 8th district, 4 cases; 9th district, 1 case; 11th district, 1 case; 12th district, 2 cases.

Half of our cases have occurred in the smaller cities of the State or in country districts, ten being in communities of less than five thousand people.

"GETTING DR. WILEY"*

AS variously reported by newspapers unafraid, by "Collier's," and by the Medical Press, the Advertisers Protective Association, whose only address is a lock-box in the New York post-office, have announced that they will "get" Dr. Wiley. They will demand a pledge from the next candidate for President of the United States that he will remove Dr. Wiley, else "he cannot secure support of the Association."

Since Dr. Wiley began his work for the protection of the health of the people, and especially since he started his "poison squad"

*Facts in this editorial are taken from the medical and lay press.

in investigation of food preservatives, he has had powerful enemies.

Dr. Wiley's investigation led him to condemn benzoate of soda as a food preservative, claiming it to be an insidious poison. This struck at the very life of many of the prepared food makers, pickle factories, etc. An appeal was made to the Secretary of Agriculture and to the President, with the resulting appointment of the Remsen Board—a board to review Dr. Wiley's findings regarding food preservatives. The verdict of this Board was acceptable to the food manufacturers, but did not entirely relieve their trouble, for Dr. Wiley began a campaign of publicity, taking the people into his confidence regarding food preservatives and creating a public sentiment against them.

But this has been only a small part of Dr. Wiley's activities. He has vigorously enforced the Pure Food and Drugs Act, so far as he was allowed—hampered as he was by the two other members of the "Food and Drugs Inspection Board," McCabe and Dunlap. It has long been supposed that this Board was formed for the purpose of curbing Dr. Wiley. It was Dunlap who, while temporarily "acting chief of the Bureau of Chemistry," in the absence of Dr. Wiley, prepared the present changes. McCabe was a member of the Committee of Personnel which recommended Dr. Wiley's dismissal. Attorney General Wickersham approved the findings, and recommended to the President that Dr. Wiley "be permitted to resign."

The charge is that Dr. Wiley technically violated the "law" in employing an expert at a yearly salary for which he was to serve enough days to make his compensation $20 per day. Technically this is a violation of the "law"—but how about the Remson Board appointed by Secretary Wilson?

This board of five were at work, from March, 1908, to December, 1909, and received $86,793, over $17,258 each, for a period of twenty-two months during which they were not continuously employed. The "law" only allows $4,000 per year for continuous employment.

Attorney General Wickersham is himself facing charges of employing experts at a higher rate of pay than allowed by "law": Frank B. Kellogg, special counsel in Standard Oil case, $77,000, Henry L. Stimson, in Sugar Trust case, $85,000, etc., spending $845,000 in two years for "special counsel."

Both Wiley and Wickersham, in employing "special counsel" at unlawful rates of payment, were working for the good of the people. Wiley spent $1600 for the people's health, Wickersham, $845,000 for their pocket-books; but the latter condemns the former. The grosser violator of an unfortunate and unjust "law," if law it is, condemns the lesser. Manifestly Dr. Wiley should have spent a round million dollars on "special counsel" instead of "scientific experts," and he would fare better.

It is the commonly accepted opinion that the powerful interests, food manufacturers, canners, patent and proprietary medicine manufacturers, whiskey-makers, sugar trust, etc., have been "after" Dr. Wiley for years. They have been watching for a chance to "get him," and now, after years of careful watching, are constrained to "get" him on a petty charge of a technical violation of the law.

Congress has begun an investigation of this whole affair, in an endeavor to find "the dark gentlemen in the wood pile," and let us hope it will be successful.

And Congress is learning some things. Dr. Floyd W. Robinson claims that he was "dismissed for the good of the service" by Secretary Wilson upon the suggestion of McCabe and Dunlap. This dismissal came just after Dr. Robinson as a court witness vigorously supported Dr. Wiley's claim as to the harmfulness of benzoate of soda.

An interesting item of Washington news is the testimony, before the Investigation Committee, of Dr. L. F. Kepler, whom the Committee on Personnel recommended be reduced in rank. Dr. Kepler testified that no officer connected with the Department of Chemistry is allowed to confer with U. S. District Attorneys in prosecuting cases, neither are they allowed to converse with members of Congress, or interview court witnesses in prosecutions instituted by the Bureau, without a written permission from Commissioner McCabe.

The case against Dr. Wiley, it appears from the investigations of the Congressional Committee, is based on the carbon copy of a letter written to Dr. Wiley by Dr. Rusby, but never sent. This carbon copy, used by the Personnel Committee to prove that Dr. Wiley knew about the Rusby contract, found its way to Washington, and was "edited," according to Dr. Wiley's testimony, before being used. The words, "We have agreed upon the following arrangement as fair and satisfactory, if approved by the Department," the most important part of the letter, in the light of present developments, were deliberately left out. Dr. Wiley testified that he never received this letter and knew nothing about the arrangements made with Dr. Rusby.

The following is from an editorial in the *Washington Times* August 9: "There has now been bared the evidence of a general purpose to reverse the very purpose and spirit of the pure food law. Passed as the national supplement and complement to the pure food efforts of the states, it appears that under the Machiavellian manipulations of this man McCabe, it has been diverted from its original purpose and made, so far as possible, the means of defeating the state laws."

Let the pot sizzle. Dr. Wiley may come out of the fracas unharmed,—we hope sincerely that he will,—but others may get their fingers burned.

INCREASE IN SALARIES OF THE MARINE HOSPITAL SERVICE MEDICAL OFFICERS

SENATE bill 2117, introduced by Mr. Martin, of Virginia, in the United States Senate, has for its object the promotion of efficiency of the Public Health and Marine Hospital Service. It aims to make the salary of the medical officers of this service correspond with that of those of equal rank in the Army and Navy service. A few years ago the salary of the medical officers of the Army and Navy service was increased, but at that time, for some reason, the officers of the Public Health and Marine-Hospital Service received no increase. The duties of this service are arduous and are of vast importance to the general public. The officers of this service have for years served with those of the Army in times of war and peace in the prevention and cure of disease. They are subject to frequent change of station, with the financial depletion involved, when they have to transport their families at their own expense. It would seem that the medical officers of the Public Health and Marine-Hospital Service are entitled to the same pay as officers of equal grade in the Army and Navy service.

NEW STATE MEDICAL JOURNAL

WE have received the August number (the first number) of the Journal of the Medical Association of Georgia. It is a very creditable little Journal of thirty pages besides the advertising. The editor is Dr. W. C. Lyle, Augusta, Georgia, and we take pleasure in welcoming him to the ranks of official medical journalism.

The text of the new Journal is, as with other official organs, what the members make it, and usually good; the individ-

uality of the editor is shown by the general appearance and happy arrangement of the Journal.

IN MEMORIAM

Henry Alexander Cleland, M. D., University of Michigan, Ann Arbor, 1861; formerly president of the Detroit Academy of Medicine, and a member of the staff of the Children's Free Hospital, also a member of the Michigan State Medical Society and the Wayne County Medical Society, a veteran of the Civil War, in which he served as assistant surgeon of Michigan Volunteers, died at his home in Detroit July 19, from heat exaustion, aged seventy-two.

Malcolm Graham, M. D., Long Island College Hospital, Brooklyn, 1865; a member of the Michigan State Medical Society and vice-president of the Hillsdale County Medical Society, a life member of the State Horticultural Society, well known as a scientific fruit grower, died at his home in Jonesville, July 17, from the effects of an accidental fall six weeks before, aged sixty-two.

Dr. David James Lackie, of Grindstone City, Mich., died at his home August 1, of pernicious anemia, after an illness of almost two months. He was born in Ontario, Canada, March 28, 1878, entered Saginaw Valley Medical College in 1901, and graduated from the Detroit College of Medicine in 1905. He immediately began work at Grindstone, and had enjoyed his lucrative practice for only about six years when death summoned him. He was an active member of the Huron County Medical Society, rarely missing a meeting, and was its delegate to the State Society two years ago. By his kindness and sympathetic spirit he has made many friends, both within and outside of the profession. He leaves a sorrowing wife and son, the latter being only fifteen months old.

Leonard E. Knapp, M. D., Cleveland University of Medicine and Surgery, 1869; for several years president of the village of Fenton, Mich., and a member of the board of education, died at his home, July 14, from paralysis, aged sixty-eight.

GRADUATE MEDICAL STUDY IN VIENNA

LETTER FROM COLLINS H. JOHNSTON, A. B., M. D., OF GRAND RAPIDS

As the American physician's medical Mecca, Vienna is deservedly popular, and will undoubtedly remain so for a good many years. There may be some good reasons for considering Berlin to be the Æsculapian center of the world to-day, and some men prefer Berlin, London, Paris or one of the smaller German universities for post-graduate work. But Vienna's popularity depends upon conditions which do not obtain elsewhere, and which in the future will differentiate it still more from all other places. When a physician decides to give up temporarily a practice which has taken years of time and patient toil to acquire, for the purpose of putting some of his hard-earned savings into his brain, there are three conditions indispensable to the largest possible returns from the time, labor and money he must necessarily expend. First, an abundance of easily accessible clinical material; second, enthusiastic scientific teachers; third, a large number and variety of autopsies. These conditions are met in Vienna in a pre-eminent degree. The clinical material is concentrated largely in the Vienna General Hospital, so that practically no time whatever is lost in going from one clinic to another, thus enabling one to do an amount of work in a short time that is impossible in Berlin or London, where much time is lost in going from one hospital to another, often several miles apart. For instance

in taking a course in infant feeding with Finkelstein, in Berlin, thirty minutes are required to go from my pension to the hospital, and almost an hour to reach his assistant in the afternoon. Inasmuch as the Vienna General Hospital has 2600 beds and an out-patient department wherein 400,000 patients are treated a year, there is no dearth of clinical material such as has been so painfully evident in more than one place where I have pursued post-graduate work in the past. In the next place, Vienna has a lot of men, professors, privat-docents, and assistants, who have plenty of time to teach, and who are filled with the true scientific spirit so strikingly exemplified in Dr. William Osler. When Dr. Pepper died, a committee from the University of Pennsylvania, headed by Dr. S. Wier Mitchell, went to Baltimore to try to induce Dr. Osler to accept the vacant chair of medicine. As an extra inducement, one of the committee said, "Dr. Osler, if you will come to Philadelphia we will guarantee you a practice of $100,000 inside of two years." "That is just why I don't want to go," replied Osler. "I haven't time to earn $100,000 a year. I would rather remain here and devote my time to teaching." He once told me that he never possessed $1,000 at one time until after he was forty years of age. I asked him what he had done with his money. He stated that whenever he got $500 together he went to Europe and spent his time in the wards and laboratories of some hospital until it was gone. This is the spirit that seems to actuate the teachers of the Vienna Medical School.

About two months ago my brother, who was passing through Italy, came to Vienna to consult a skin specialist and an aurist. I had previously referred him to two Chicago men, each of whom charged him $25 for consultation. He visited two of Vienna's eminent specialists, at their private offices, was given about one half hour of time, and charged $2 for each consultation. He was quite prepared to pay at least as much as he had at home. Many of the instructors take much more interest in teaching and scientific work than in private practice. The pathologists are not permitted to practice medicine at all, whereas in Paris there are no professional pathologists, the men in charge of the pathological laboratories being physicians to the hospitals and engaged in private practice. The position of assistant or privat-docent is one of great honor, and much striven for, and a man who reaches the dignity of professor is pretty sure to have earned the distinction. I know of a man who graduated at the Vienna Medical School about fifteen years ago, and who has returned for two months of post-graduate work every two years, who is seriously considering giving up a practice of $35,000 to $40,000 a year in one of the large Western cities of the United States to accept a position of privat-docent in Vienna which carries with it no salary whatever. The result of this enthusiastic devotion to scientific medicine was well illustrated last month by Von Jagic, the most popular teacher on the heart. His class is supposed to contain six men, but in July there were but two applicants. They were, however, so desirous of getting the course, that Von Jagic gave it to them, one hour a day five times a week for four weeks, for which he received the sum of $20.

There are over 2,000 deaths a year in the General Hospital. All these cases, with a few uninteresting exceptions, are "posted." The courses in pathology are the most popular and most of the men take one or more, whatever kind of work they may be pursuing. Prof. Stoerk, a young man of about forty or forty-five years of age, whose father was a distinguished laryngologist in the Vienna Medical School, does most of the teaching in gross pathology. He has been in the pathological department twenty-one years, and told me he had seen over 40,000 autopsies. He gives two courses, one in German, limited to twenty students, and one in English limited to twenty-two. The classes are held in the section room of the pathological laboratory where, seated about the post-mortem table, you listen for 1½ hours to Stoerk while he lectures upon the organs of four or five of the most interesting autopsies of the previous two or three days. A man who has practiced medicine for any length of time cannot follow one of these courses long without having a flood of light thrown upon more than one of his own cases at home which had heretofore been wrapped in obscurity. As Canfield, of the University of Michigan, said one day while sitting next to me, "Stoerk gives corking good lectures." Two of his assistants give courses to classes of five, which enables one to get a more intimate acquaintance with pathological conditions than is possible in the lecture courses. Two or three times a week, depending upon the amount and character of material available, the members of the class gather about a table upon which are placed, in large trays, the organs of five cases, and spend an hour in looking them over. The assistant then comes in and two or more hours are devoted to

studying the specimens with him, during which time each member of the class demonstrates one case.

To illustrate the number and variety of courses that may be taken in a short time, I asked some of my friends who are interested in different lines of work to give me a list of their courses for a month or two. The following were those taken by Dr. Benjamin Gleeson, of Dansville, Illinois, in May and June, all of which were given in English:

May

8–10 A. M. Anatomy and pathology of the eye.
10–11 " Clinical diagnosis, nose and throat.
11–12 " Clinical diagnosis, ear.
12–1 P. M., Anatomy and functional testing of the ear.
4–5 " Operative course on the ear.
5–6 " Ophthalmoscopy.
8–9 " Anatomy of the nose, throat, and accessory sinuses.

June

8–10 A. M., Ambulatorium clinic, eye and ear.
10–11 " Bacteriology of the eye.
11–12 " Ambulatorium, eye and ear diseases.
1–2 P. M., Operative course on the eye.
2–3 " External diseases of the eye.
3–4 " Cranial complications of ear diseases.
4–5 " Operations on the ear.
5–6 " Diagnosis and treatment, eye muscles.
6–7 " Operative course, nose and throat.

W. L. Ballenger, Professor of Laryngology, P. and S., Chicago, T. H. Halsted, Professor Otology, Medical School, Syracuse, N. Y., and J.W. Murphy, Professor Otology, Miami Medical College, Cincinnati, took these courses for five weeks.

Dr. Phillip Shaffner, of Chicago, a skin specialist, pursued the following schedule for two months:

9–10 A. M., Skin clinic—demonstration of about six cases.
10–11 " Dispensary, 40 to 60 cases each day, no lecturing.
11–12 " Prof. Finger's lecture with demonstrations.
12–1 P. M., Clinic, about same as 9 to 10.
2–3 " Clinic.
3–4 " Skin diseases in children—three times a week.
3–4 " Histopathology of skin diseases three times a week.
5.30 to 6.30 Skin clinic as above.

The last mentioned was the only one of these courses given in English. Dr. Shaffner spent four or five months in skin work in Berlin, and three months in Vienna, so is able to speak intelligently of the comparative merits of the two places.

Dr. Grace Hendricks, of Jackson, Mich., who was in Vienna from December until July studying gynecology and obstetrics, was good enough to give me a list of her courses for two months as follows:

9–10 A. M., Gynecological clinic, Polyklinik, Bondi.
10–11 " Operations on cases previously examined in Wertheim's clinic.
11–12 " Histology and pathology female generative organs, Frankl, Schauta Klinik.
4–5 P. M., Gynecological diagnosis, Wertheim Klinik.
6–7 " Gross pathology, Frankl.

———

8–9 A. M., Operations on previously examined cases in Schauta Klinik.
9–10 " Polyclinik, Gynecological diagnosis, Bower.
4–5 P. M., Gynecological diagnosis, Christofoletti, Schauta Klinik.
5–7 " Obstetrics, Schauta Klinik.

The following was my own schedule for three months, with the number of students in each class in parentheses:

May

8–9 A. M., Tuberculosis, diagnosis and therapy (2).
10–12.30 Diagnosis, internal diseases, ward clinic (12).
2.30–5 P.M., Ambulatory clinic in children (2).
5.30–7 " Gross pathology (20) and (5).

June

8–9 A. M., X-ray diagnosis, chest and abdomen (5).
9.45–10.45 Ward clinic, general medicine (10).
11–12 " Diagnosis, diseases of abdominal organs (6).
2.30–4 P.M., Tuberculosis, diagnosis and therapy (2).
4–5 " Ward clinic, heart and lungs (6).
5.30–7 " Gross pathology (20) and (5).

July

8–10 A. M., X-ray diagnosis, chest and abdomen (4).
10–11.30 Diseases of children (8).
11.30–1 Diseases of the heart (2).

2–3 P. M., Laboratory course internal secretions (10).
3.30–5 " Syphilis and gonorrhea (8).
5–6 " Tuberculosis, diagnosis and therapy (2).
6–7.30 " Nose and throat (4).

The majority of these courses were given in German, and this brings up the question whether a knowledge of German is essential to graduate work in Vienna. Speaking generally, I should say it is not necessary but quite desirable.

There are no courses whatever given in English in Berlin, and all courses in Vienna would be more valuable if given in German. Such men as Kovacs, Von Jagic, Holzknecht, Schlesinger and Eppinger can speak very little, if any, English, and even the men who speak English fairly well can talk German much better. This is well illustrated by Stoerk, who speaks English much better than most of the others. For six weeks I took both his English and German courses. The material was usually the same, but whereas he lectured an hour in English, his talk in German lasted one and a half hours, and he really told twice as much. He simply has not the necessary vocabulary and fluency of speech to make the explanations in English that he can in German. As a rule, therefore, students who understand German avoid the English course. But when a majority of the members of a class prefer English, the instructor is glad to accommodate them if he can. The result is that some of the best men do give courses in English and I have known many Americans without any knowledge of German, who within a week or two after their arrival have had their time fairly well occupied with splendid courses. It is a very great advantage, however, to have some knowledge of German beforehand. If then you can get a couple of courses in English and a couple in German to begin training your ear at once, and put in an hour or two a day on German with a competent teacher, by the second month you will be able to understand the language well enough to profit by any course you can get.

This brings up an important point, of which the new-comer must know. In 1904 the American Medical Association of Vienna was formed for the purpose of promoting social intercourse and the scientific advancement of its members, to provide information in regard to the scope and relative value of courses, and to furnish data for the rapid orientation of new members in regard to pensions, rooms, restaurants, etc. All physicians coming to Vienna for study are invited to enroll their names in the association's registration book and to become members. The sooner this is done after reaching Vienna the better, for the date of registration determines the right of priority in all posted courses. It is advisable to reach the city, if possible, a week or so before the end of a month, as most of the work begins about the 1st. The courses are posted in a bulletin board in the association rooms, and it is well to sign up as early as possible and for more courses than you expect to get, as a new-comer is sure to be crowded out of some by the older members. A blue book is published once a year containing a description of all of the courses given (276 are listed in the 1911 edition) which may be obtained on application to the secretary.

The popularity of Vienna is evidenced by the fact that 490 new-comers joined the association from July 1, 1910, to July 1, 1911, and 510 the year before. The average length of stay is three and a half months. Some men remain six months, a few one or two years. It does not seem to be a very difficult matter for an earnest, industrious fellow to get a position as assistant in one of the wards of the general hospital, where invaluable experience is obtained. There are five Americans serving in such a capacity there now, and as their duties do not prevent them from taking one or more courses outside, the positions are most desirable.

The Germans are quick to recognize merit in an American, and are glad to afford him every opportunity for research work. Dr. Ralph C. Matson, of Portland, Oregon, my co-worker in tuberculosis with Neumann, was very anxious to make some investigations into the value of Much's granules, and Neumann at once placed the material of the entire Neusser clinic at his disposal. He is as greatly interested in the work as Matson himself, and the results will be published in the *Vienna Medicinische Wochenschrift*, as an "Arbeit" from the Neusser clinics.

In 1908 H. Much stated in the *Berlin. Klin. Woch.* that in some cases of pulmonary disease which were clinically tuberculous, but in which acid-fast tubercle bacilli could not be found, he had been able to demonstrate small non-acid-fast rods morphologically resembling tubercle bacilli, and also small granular bodies which he called "Much's granules," and which he believed to be a developmental form of tubercle bacilli. He apparently proved his claim by transforming the ordinary form of tubercle bacilli into his granules and then back again. Matson's work has already produced

some exceedingly interesting results. In several cases of chronic fibroid disease with emphysema and bronchiectasis of twenty-five and thirty years' standing, and in whose sputum Neumann had been unable to find tubercle bacilli even after twenty or thirty examinations, Matson has found Much's granules. He has also found them in several early cases in which tubercle bacilli had not yet appeared, and in other cases which have progressed so far towards recovery that the bacilli had disappeared.

I was especially interested in the case of a man fifty-eight years old, who had been ill thirty-two years with chronic interstitial pneumonia. There was dullness over the entire right front with cavernous breathing and musical, resonating rales. The left apex also contained cavities.

The man had had several hemorrhages, and clinically the case was one of tuberculosis. The sputum amounted to 100 cubic centimeters a day and had been examined many times for tubercle bacilli, but always with negative results. Neumann examined it himself ten times after treatment with antiformin, using the Ziehl-Nielsen stain which is the one usually employed in the Neusser clinic, but found no acid-fast bacilli. Much's granules were found on the first examination. It is taking a vast amount of work and many animal experiments to enable them to draw definite conclusions, but enough has now been done to warrant Neumann in expressing the opinion that old cases of emphysema, chronic bronchitis and bronchiectasis, which are secondary to tuberculosis, will show only Much's granules, while the cases in which tuberculosis is secondary to the above conditions will show acid-fast bacilli. It would be a most pleasing result of the splendid work of Dr. Matson if by reason of it the chapters on Fibroid Phthisis and Chronic Interstitial Pneumonia in the next issue of Dr. Osler's volume on the Practice of Medicine should have to be partly rewritten. Much's granules are not mentioned in the last edition (1910).

The Vienna general hospital consists of a series of long, low, old-fashioned, cement-covered buildings which, with the ten enclosed courts, must cover an area of thirty or forty acres, and was founded 220 years ago. The medical school has suffered a good deal in recent years from its inability to fill vacant chairs with such men as it wanted, because they were unwilling to work in such an old hospital with its necessarily inadequate equipment. Strumpel was its latest disappointment. After much urging he accepted the Third Medical Clinic but left in disgust at the end of a year, and followed Gone to the University of Leipsic. For several years, however, a new hospital has been in process of construction, which will consist of thirty-nine pavilions and require fifteen years for completion. Two of the pavilions are already occupied by the Wertheim and Schauta clinics, and Osler recently stated that inside and out they were the most attractive hospital buildings he had ever seen.

In situation, construction, general arrangement for comfort of patients and convenience of management, even to the smallest detail, everything has been done to make these two clinics the most perfect of their kind. The buildings are four stories in height with large wings, built of brick and cement, with spacious corridors, large windows, tiled floors, white oil-finished walls and as nearly fireproof as it is possible to make them. Each has a lecture hall with seats for 200 students, 235 beds for obstetrical cases, 58 beds for gynecological patients and a separate pavilion for 24 infected cases. There are 10,000 deliveries a year, almost all illegitimate. The total cost of these two buildings was $1,800,000. Three other buildings are about completed and will be occupied this fall, one for Prof. Von Norden's clinic, with 100 beds, an isolation pavilion, a special diet kitchen for cases of metabolism and a special laboratory. Another building is for the nose and throat clinic of Prof. Chiari, with 48 beds, an isolation pavilion of 10 beds for diphtheria, an operation theatre and a laboratory. The third is for the diseases of children and will be in charge of Von Pirquet, a native of Vienna, of whom the Viennese are justly proud. For many years he was assistant to Escherich, but left three years ago to accept the chair of Pediatrics at Johns Hopkins. He remained there a year or so, and then went to Breslau. He has recently accepted the Professorship of Diseases of Children at Vienna and will begin work this fall. His clinic consists of 44 beds, an infant ward with 10 cots, and an incubator ward with 72 beds for premature and delicate infants. In separate pavilions are wards for 24 cases of scarlet fever and 21 beds for diphtheria. In the medical clinic is a lecture hall for 236 students, in the laryngological clinic one for 100 students, and another in the pediatric clinic for 200 students. These three buildings, or rather clinics, have cost the State, by whom they are built and maintained, over $1,000,000. The site of the new hospital is near the old one, and is such as to get the pure breezes from the mountains in the neighborhood.

The roofs of the thirty-nine pavilions will be made into gardens and large elevators will enable patients to reach them. Specially constructed beds will be put on the roofs of the surgical pavilions to make possible the exposure of suitable cases to the air and sun's rays. When finished there will be nothing like the new hospital in America or Europe. It will have a capacity of 5,000 beds.

Finger, the leading syphilographer in Vienna, and one of the greatest dermatologists in Europe, has treated a series of 500 cases of syphilis with salvarsan alone, and is now using it in conjunction with mercury in a second series of cases. He is of the opinion that syphilis is not such a dangerous disease that every case should be treated with such a possibly dangerous remedy as 606. In ten per cent. of his cases the use of the drug was followed by severe nervous symptoms, and 45 cases of complete facial paralysis affecting both facial and tri-facial nerves, total deafness in both ears, persistent vomiting, local and general spasms, severe headaches lasting for weeks, iridocyclitis, optic neuritis in both eyes, or complete hemiplegia of one side of the body have followed its administration in his clinic. One case died, and the autopsy showed extensive hemorrhages into the right side of the brain, syphilitic endarteritis and basal meningitis. The much greater frequency of these serious lesions after salvarsan than after mercury and iodides indicates that 606 is distinctly toxic to the nerve centers and not without danger, which with the fact that relapses after its use are quite as common as after mercury, shows that it is not as ideal a remedy as Ehrlich at first hoped it was. Moreover, a complete cure never follows one injection in any stage of the disease. It is now generally given intravenously, the subcutaneous and intramuscular administration having been followed by abscesses and extensive necroses. In many cases a chill and fever reaching 104 degrees, or over, with headache, vomiting, dizziness and diarrhea follow the injection. These symptoms may pass off in two to twelve hours or be followed by more severe ones which may disappear in three or four days or last several weeks. Another series of symptoms may set in four to six weeks after the injection, such as persistent dizziness, vomiting, deafness, epileptiform attacks, etc.

There is no doubt, however, that while in general salvarsan is not to be preferred to mercury and iodides in the treatment of syphilis, it has a very energetic symptomatic effect upon the patient and is most useful where rapidly acting anti-syphilitic treatment is desirable. Finger, therefore, recommends it in selective cases such as, first, malignant cases, severe tertiary forms, cerebral or perhaps congenital cases, where no contraindications exist; second, cases which are intolerant to mercury or which fail to react to it when given by inunction or hypodermically; third, as an abortive agent. It is in cases of secondary syphilis, and not in the primary stage, that severe nervous symptoms follow its use. If, therefore, a case of syphilis presents itself for treatment before the Wasserman reaction is positive, which is usually not until secondary symptoms appear in the fifth or sixth week (a positive reaction is rarely delayed beyond the seventh week), and the correctness of the diagnosis is proved by finding the spirochetes, Finger advises the excision of the initial lesion and the intravenous administration of 0.4 gram of salvarsan for a male, and 0.3 gram for a female patient. The injection is to be repeated in ten or twelve days. In 20% of the cases this will abort the disease and cure the patient. In the other 80% you can go on with mercury as usual. He emphasizes the fact that you cannot expect to succeed with the abortive treatment later than the fourth or fifth or possibly the sixth week after infection. As contraindications to the use of salvarsan, he recognizes complicating diseases of the heart, arteries, brain or nervous system and satisfactory response to mercury and iodides.

Hamburger, a well known pediatrician, has used 606 in twelve cases of congenital syphilis, all of which died, so he is opposed to its use with babies.

The opinion is expressed in one of the other skin clinics that we may soon be able to cure syphilis completely in one year by three injections of salvarsan, and three or four series of inunctions or injections of mercury followed each time by mercury internally for a month.

Collins H. Johnston.

Berlin, August 2, 1911.

Following the Annual Meeting of the State Society in Detroit this month Harper Hospital will give a two days' clinic. Programs of the clinic will be mailed about the fifteenth of September.

PROGRAM OF THE FORTY-SIXTH ANNUAL MEETING OF THE MICHIGAN STATE MEDICAL SOCIETY, DETROIT, SEPTEMBER 27 AND 28, 1911

MEETING PLACES

The General Session, House of Delegates and all the Sections will meet in the Convention Halls of the Pontchartrain.

Registration will be at the elevator landing.

Scientific Exhibits to the left.

County Secretaries and first meeting of Council, Wayne County Medical Building.

THE COUNCIL

Chairman, W. T. Dodge, Big Rapids.
Secretary, W. H. Haughey, Battle Creek.

Meetings

Tuesday, September 26, 8 P. M.
Wednesday, September 27, 2 P. M.
Thursday, September 28, 2 P. M.

HOUSE OF DELEGATES

Convention Hall, Pontchartrain

President—C. B. Burr, Flint, Mich.
Secretary—Wilfrid Haughey, Battle Creek.

By-Laws—Chapter IV, Section 1. Each Component County Society shall be entitled to send to the House of Delegates each year one delegate and one alternate for every 50 members, and one for each major fraction thereof; but each County Society holding a charter from this Society, which has made its annual report as provided in this Constitution and By-Laws, shall be entitled to one delegate and one alternate.

First Session, Wednesday, September 27th

8:00 A. M.

1. Call to order by the President.
2. Report of Committee on Credentials.
3. Roll Call.
4. Reading of minutes of the last Annual Meeting.
5. Report of Committee on Arrangements.
   J. A. MacMillan, Detroit, Chairman.
6. Report of the Council.
   W. T. Dodge, Big Rapids, Chairman.
7. Report of Committee on Legislation and Public Policy and on the work of the National Legislative Council.
   W. H. Sawyer, Hillsdale, Chairman.
8. Amendment to the Constitution.
   Article VIII, Section 1, strike out the words "and twelve Councilors" and substitute the words "and a board of Councilors."
9. Report of Delegates to the A. M. A.
10. Miscellaneous Business.
    (a) Election of Committee on Nominations to nominate:
    1st, 2nd, 3d and 4th Vice-Presidents.
    Councilors for the 4th, 5th, 7th, and 10th districts (6 year term).
    Representative and alternate in House of Delegates A. M. A. for two years to succeed E. T. Abrams and R. E. Balch respectively, also alternate to succeed C.G.Darling (term expiring1912).
    To fix place of meeting for 1912.
    By-Laws—Chapter VI, Sec. 2. "The House of Delegates shall elect annually, at its first meeting, a Nominating Committee of five from the House of Delegates, no two of whom shall be from the same Councilor District."
    (b) Appointment of Business Committee and other Working Committees.
    (c) Other Miscellaneous Business.
    Recommendations of Council.

Adjournment to General Meeting, 10 A. M.

Second Session, Thursday, September 28th

8:00 A. M.

1. Reading of the Minutes of the Previous Session.
2. Report of Committee on Nominations.
3. Election of Officers.
4. Report of the Committee on the Study and Prevention of Tuberculosis.
   H. J. Hartz, Detroit, Chairman.

5. Report of Committee to Encourage the Systematic Examination of the Eyes and Ears of School Children throughout the State.
   Walter R. Parker, Detroit, Chairman.
6. Report of Committee on Medical Education.
   David Inglis, Detroit, Chairman.
7. Report of Committee on Venereal Prophylaxis.
   A. P. Biddle, Detroit, Chairman.
8. Unfinished Business.
9. Miscellaneous Business.

Adjournment sine die, to Section Meetings.

GENERAL MEETING

Convention Hall, Pontchartrain

President—C. B. Burr, Flint.
Secretary—Wilfrid Haughey, Battle Creek.

First Day, Wednesday, September 27th

10:00 A. M.

1. Call to order by the President.
2. Prayer—Rev. John McCarroll.
3. Address of Welcome.
   For City—Mayor Thompson.
   For Wayne County Medical Society—Dr. H. O. Walker.
4. Report from the House of Delegates.
   Wilfrid Haughey, Battle Creek, Secretary.
5. Address of the President—"Paranoia and Certain Paranoid Conditions in Their Relation to the Public and the Profession."
   C. B. Burr, Flint.
6. Address—"Problems in Diseases of the Thyroid" (with lantern slide demonstration).
   Charles H. Mayo, Rochester, Minn.
7. Miscellaneous Business. Under this head there will be a general discussion of questions on medical economics. This opportunity is given to any member who wishes to bring before the entire Society any subject of general interest, either by informal discussion, or by formal resolutions.
8. Nominations for President, 1911-1912.

Adjournment.

Wednesday Evening

8:00 P. M.

Reception followed by refreshments and entertainment, by Wayne County Medical Society.

Second Day, Thursday, September 28th

11:30 A. M.

1. Unfinished Business.
2. Report from the House of Delegates.
   Wilfrid Haughey, Battle Creek, Secretary.
3. Miscellaneous Business. Another opportunity to bring to the attention of the general body any questions of general interest.
4. Announcement by the Committee on Nominations of the result of the Ballot for President.
5. Introduction and Installation of President-elect.

Adjournment sine die.

SECTION MEETINGS

By-Laws—Chapter III.

Sec. 3. Except by special vote the order of exercises, papers and discussions as set forth in the official program shall be followed from day to day until it has been completed. No paper shall be read by title nor read by any other person than its author except as a result of sickness of author, or by unanimous vote of the Section to which it belongs.

Sec. 4. No address or paper before the Society, except that of the President, shall occupy more than fifteen minutes in its delivery; and no member shall speak longer than five minutes or more than once on any subject.

Sec. 5. All papers read before the Society shall be its property. Each paper read shall be deposited immediately with the Secretary.....

By resolution of the Committee on Scientific Work, the stenographers are instructed to take the discussion on only those papers deposited with the Section Secretary as above provided.

SECTION ON GENERAL MEDICINE

Chairman—Benj. A. Shepard, Kalamazoo.
Secretary—John H. Crosby, Plainwell.
(The Secretary of the Section will collect all papers as soon as read.)

First Session, Wednesday, September 27th

1:45 P. M.

1. Chairman's Address.
   BENJAMIN A. SHEPARD, Kalamazoo.
2. The Medical Aspect of the Special Class of the Public School System.
   CLARK B. FULKERSON, Kalamazoo.
   Brief review of factors that cause mentally deficient

children. Methods that lead to the discovery of mentally deficient and feeble-minded children. Special class is a preventative of insanity.

3. Resume of Twelve Years' Experience with the Roentgen Ray as a Therapeutic Agent.

H. R. VARNEY and R. C. JAMIESON, Detroit.

Introduction. General rules for indications and contra-indications of treatment. Means employed for measuring the dosage with outlines of methods of administration. Action of the ray on the tissues. Comparison of the ray treatment with other procedures and results obtained in the various dermatological affections.

4. The Relation of Surgery to Medicine.

FRANK B. TIBBALS, Detroit.

Surgery is the mechanical treatment of diseased conditions not yielding to drugs or other remedial measures. A surgeon is a physician with special skill in mechanics, an expert with the knife and needle. His experience with operative cases also makes him a valued consultant in the diagnosis and the after care of surgical patients. If the surgeon has done his part of the work properly, an operated patient is a convalescent patient, of far less gravity than most of the grave medical cases which the attending physician is accustomed to treat. Surgery is a branch of medicine, not a separate field. A few experts should do most of the major surgery, as consultants. The fee splitting evil will disappear when the surgeon learns that his true relation to medicine is that of a consultant and works with and not against the profession.

5. Results of Treatment at the State Sanatorium for Tuberculosis.

E. B. PIERCE, Howell.

Second Session, Thursday, September 28th

9-11:30 A. M.

1. Diagnosis of Heart Lesions.

G. W. MCCASKEY, Fort Wayne, Indiana.

The determination of the functional capacity of the heart of first importance. This depends principally upon the cardiac neuro-muscular mechanism. Conductivity, rhythmicity, tonicity, contractility, the fundamental cardiac functions determined by physical signs and symptoms. Graphic methods essential to thorough understanding of many cases. Sphygmograph and polygraph indispensable. Importance of valvular defects still greatly overestimated. Cardiac and vascular disease must be diagnostically considered together. Illustrative cases and tracings.

2. Etiology and Treatment of Cardiospasm.

W. H. ENDERS, Jackson.

Nature and definition of cardiospasm. Causes of cardiospasm. The symptoms of cardiospasm. The sequelae of cardiospasm. Methods of diagnosis. Test of Rumpel, use of X-ray, and esophagoscope. Differentiation of cardiac carcinoma. Treatment. Treatment of the general nerve system. Drugs used. Use of bougies. Method of dilatation by means of the hydrostatic dilator. Report of cases. Prognosis and results.

3. The Treatment of the Heart in Acute Affections. C. G. JENNINGS, Detroit.

4. The Management of Heart Cases in General Practice.

J. B. WHINERY and T. D. GORDON, Grand Rapids.

Prophylaxis—simple and malignant. Endocarditis. Cases of fairly well compensated valvular lesions. Treatment of decompensation. Cases of myocardial disease. Heart conditions resulting from nephritis, arteriosclerosis, hyperthyroidism, tuberculosis. The nervous heart.

5. Pernicious Anemia.

BURTON R. CORBUS, Grand Rapids.

Especial reference to the etiology as dependent on liver insufficiency.

Third Session, Thursday, September 28th

1:45 P. M.

Election of Chairman for 1912.

Election of Secretary for 1912-1913.

1. The General Use of Fat in the Diet.

JAMES E. DAVIS, Detroit.

Fat in the diet of natural selection is 8.3 per cent. of total food weight, but it furnishes 16 per cent. of a day's total energy needs, hence it is economical. Fat best prolongs a satisfied appetite, is superior to carbohydrate as a reserve store. Its residue is negligible. Its feeding, if successfully done, requires gradual enzymic development.

2. The Status of the Carbohydrates in the Digestion of Infancy.

D. J. LEVY, Detroit.

Previous conceptions. The "mehl nahr schaden" of Czerny-Keller. The "austausch experiment" of L. F. Meyer. Sugar dyspepsia. Alimentary intoxication. Effect of carbohydrates and proteids on intestinal flora. Comparison of various sugars. Mixed carbohydrates. Significance of carbohydrates in infant feeding.

3. Dietetic Management of Diabetes and Glycosuria.

M. A. MORTENSON, Battle Creek.

The importance of differentiating between these conditions. Necessity of careful and complete examination of the urine including quantitative estimation of acetone and ammonia on various allowances of carbohydrates in order to determine toleration of same. This is to form basis for diet prescription. Value of frequent changes in diet prescription. Experiments and results in the use of Von Norden's green diet and oatmeal diet. Importance of their relation to one another. Report of a series of cases. In severe cases of diabetes great caution necessary in cutting down carbohydrate too suddenly. Our guide is the elimination of the acetone bodies and ammonia.

4. Epidemic Poliomyelitis.

BURT F. GREEN, Hillsdale.

Short history of the disease. Etiology. Period of incubation. Time of year most prevalent. Diagnosis. Infective agent may extend to any part of cerebro-spinal system, and may affect both gray and white matter, also the meninges. Symptoms will vary according to location of the inflammatory process. Differential diagnosis. The epidemic in Hillsdale County. Prognosis and treatment. Importance of reporting cases, isolation, and disinfection.

5. Infantile Paralysis.

T. M. KOON, Grand Rapids.

SECTION ON SURGERY, OPHTHALMOLOGY AND OTOLOGY

Chairman—R. E. Balch, Kalamazoo.

Secretary—R. C. Stone, Battle Creek.

(The Secretary of the Section will collect all papers as soon as read.)

First Session, Wednesday, September 27th

1:45 P. M.

1. Chairman's Address—

R. E. BALCH, Kalamazoo.

2 Fractures.

C. H. SAMPLE, Saginaw.

Discussion opened by W. K. West, Painesdale.

3. The Practical Diagnosis of Uncomplicated Ulcer of the Stomach.

James Taft Pilcher, Brooklyn, N. Y.

Relative value of the different etiologic factors. Consideration of symptomatology of uncomplicated ulcer. Cardinal factors (1) Chronocity, (2) Periodicity, (3) Pain, time of its occurrence, regularity, method of relief, as noted in fifty cases diagnosed clinically and compared with the findings at operations. Relative importance of belching, vomiting, hematemesis. Deductions made from gastric analyses. Fallaciousness of previous observations. Differential diagnosis between ulcer of stomach and that of duodenum.

Discussion opened by C. D. Aaron, Detroit.

4. How X-Ray Plates May Help the Abdominal Surgeon.

(Lantern slide demonstration.)

A. W. Crane, Kalamazoo.

X-Rays may be made to record:—

(1) Any part of the alimentary tube from the cardia of the stomach to the sphincter ani.
(2) An outline of the head of the pancreas, the total length of the gland and the inclination of its longitudinal axis to the median line.
(3) The size and position of the spleen.
(4) The outline of the ureter and pelvis of kidney.
(5) The outline of the urinary bladder.
(6) Foreign bodies, urinary calculi, bullets, swallowed articles.
(7) Spinal disease producing abdominal symptoms.

Discussion opened by Geo. C. Chene, Detroit.

5. The Principles for the Treatment and Cure of Hernia.

H. E. Randall, Flint.

Discussion opened by Roland Harris, Battle Creek.

6. Pyelonephritis of Pregnancy.

W. F. Metcalf, Detroit.

Its etiology, prognosis and treatment, with report of cases.

Discussion opened by Reuben Peterson, Ann Arbor.

Second Session, Thursday, September 28th

9 to 11:30 A. M.

1. Remarks Upon the Pathology, Symptoms, Diagnosis and Treatment of Intestinal Tuberculosis.

Samuel Goodwin Gant, New York City.

Bowel tuberculosis may be incited by tubercle bacilli which reach the intestine through being inhaled, with the food, in swallowed sputum from an infected lung or by way of the anus from scratching or unclean toilet paper. The disease may be *primary* and induced by the *bovine* bacillus, or *secondary* when infection is due to *human* tubercle bacilli, the latter being by far the most frequent. Measures for improving the general health. Symptomatic treatment. Irrigations. Topical applications. Surgical treatment.

In concluding, the writer states that the results obtained had been better since he began treating tuberculosis on the basis of a dual infection, instituting hygienic and supportive measures to improve the lung and general condition, while the bowel was being treated directly by internal irrigation, medication and topical applications.

Discussion opened by Louis J. Hirschman, Detroit.

2. A Symposium on Renal Surgery.

I. The General Consideration of Renal Surgery.

Geo. C. Hafford, Albion.

II. Tuberculosis of the Kidney.

Frederick W. Robbins, Detroit.

III. Hydronephrosis.

Dean Loree, Ann Arbor.

IV. Movable Kidney.

H. W. Longyear, Detroit.

Discussion opened by Schuyler Colfax Graves, Grand Rapids.

Third Session, Thursday, September 28th

1:45 P. M.

Election of Chairman for 1912.

Election of Secretary for 1912-1913.

1. Some Things To Be Remembered in the Management of Strictures.

Arthur Eddy West, Kalamazoo.

Discussion opened by W. E. Keane, Detroit.

2. (Subject to be announced later.)

Albert E. Halstead, Chicago, Ill.

3. Obstructive Hypertrophy of the Prostate. The Diagnosis and Treatment with special reference to advanced cases.

Paul M. Pilcher, Brooklyn, N. Y.

The importance of exactness of diagnosis; diseases which simulate hypertrophy of the prostate; discouraging results when the entire pathology is not understood before operation. Preparation of a patient for operation; when to operate in the advanced cases. Determining the functional activity of the kidneys. Repairing the kidneys and preventing uremia. Reasons for selecting the suprapubic operation; its technic; the after-course. The final results, comparing a series of perineal and suprapubic prostatectomies.

Discussion opened by Dean Loree, Ann Arbor.

4. Progress in Surgery of the Spinal Cord. Illustrated.

Max Ballin, Detroit.

Discussion opened by J. W. Vaughan, Detroit.

5. Vaccine Therapy.

W. T. Dodge, Big Rapids.

Discussion opened by A. P. Ohlmacher, Detroit.

6. (Subject to be announced later.)

Walter R. Parker, Detroit.

SECTION ON GYNECOLOGY AND OBSTETRICS

Chairman—Richard R. Smith, Grand Rapids.

Secretary—Rolland Parmeter, Detroit.

(Secretary of the Section will collect all papers as soon as read.)

First Session, Wednesday, September 27th

1:45 P. M.

1 Chairman's Address.

RICHARD R. SMITH, Grand Rapids.

2. Post Operative Ileus.

ANGUS MCLEAN, Detroit.

Causes, early symptoms, portion of intestine involved. Medical and surgical treatment with reference to actual cases.

3. Physostigmine Combined with Morphine for Pain Following Abdominal Operations.

B. R. SCHENCK, Detroit.

4. The Need of a Better Developed Obstetrical "Conscience."

CHARLES E. BOYS, Kalamazoo.

Definition of the term. Comparison of the general attitude of physicians toward asepsis in surgery and obstetrics. Good obstetrics presupposes a good surgical technique. Asepsis usually best in hospitals. Factors favoring a good technique in the home.

5. Office Management of Rectal Diseases—Surgical and Non-surgical.

JAMES A. MCVEIGH, Detroit.

Method of conducting examination. Thorough examination should be made in all cases. Conditions revealed by sense of touch. The use of speculum, proctoscope, and sigmoidoscope. Cases in which palliative measures should be employed. Some in which palliative treatment is useless and therefore not justified. Symptoms which are reflected from uterus and other adjacent organs. Description of surgical and non-surgical methods of treatment.

Discussion opened by W. P. Manton, Detroit.

Second Session, Thursday, September 28th

9 to 11:30 A. M.

1. Cysts of Gaertner's Duct.

CONRAD GEORG, JR., Ann Arbor.

Frequency of cysts of Gaertner's duct. Description of location, illustrated with a few lantern-slides showing schematic illustration of development of uterus, tubes and vagina, and the relation of Wolffian and Gaertner's ducts to the broad ligaments, uterus and vagina, also a cross section of uterus showing Gaertner's ducts. Report of private case.

2. Premature Rupture of the Amniotic Sac and its Relation to Puerperal Sepsis.

GEORGE KAMPERMAN, Ann Arbor.

Opinion of obstetricians regarding the relation of this accident to sepsis. No relation usually recognized. Report of recent cases. Interpretations of observations. Method of dealing with such patients.

3. External Pelvimetry with Special Reference to Method of Measuring the Outlet.

HOWARD H. CUMMINGS, Ann Arbor.

The present status of pelvimetry and the reasons for this condition. Diameters usually measured; their value and significance. Method of outlet pelvimetry. Normal measurements. Importance of outlet pelvimetry. Funnel pelvis, its diagnosis and prognosis. Report of four cases of funnel pelvis.

4. Roentgenologic Examination of the Pregnant Uterus.

P. M. HICKEY, Detroit.

Review of previous work. Findings in writer's cases.

5. Coloptotic Constipation.

L. J. HIRSCHMAN, Detroit.

Physical and radiographic examination of the colon in women giving a history of constipation of long duration has brought out the fact that many of these cases have been diagnosed and treated as chronic, atonic and spastic constipation. The physical causes have been misunderstood or overlooked. The application of the proper therapeutic agents, whether mechanical or surgical or both, have achieved most happy results. Illustrative cases, illustrated by lantern-slides.

Third Session, Thursday, September 28th

1:45 P. M.

Election of Chairman for 1912.

Election of Secretary for 1912-13.

1. Unnecessary Colpotomy.

JONH J. REYCRAFT, Petoskey.

Many unnecessary colpotomies might be performed for their diagnostic value alone. Of great value in doubtful cases. Danger of infection of peritoneal cavity very slight under proper precautions.

2. Caesarean Section, the Second Time in Two Cases.

J. H. CARSTENS, Detroit.

3. Blood Pressure in Eclampsia.

WALTER F. WELZ, Detroit.

During the last months of normal pregnancy there is a slight increase in blood pressure. The pressure decreases directly after labor, and gradually returns to normal in a few days. The pressure in women suffering from toxemia of pregnancy increases considerably during the last months of pregnancy. The greatest blood pressure occurs during the convulsive stage and this decreases with recovery in about ten days. The pulse rate is increased during the eclamptic period, and in severe cases the temperature also rises above normal. Decrease of pulse rate is followed by decrease of temperature, and also by a lessening of convulsions. The administration of veratrum viride causes a decrease in the pulse rate which is followed by a lower temperature and decrease in number of convulsions.

4. Puerperal Infection.

A. S. WHEELOCK, Goodrich.

Need of review of present teachings. Physiology of puerperal uterus. Bacteriology of infection, routes of and immunity to same. Resistance of pelvic tissues to. Prophylaxis. Resection of pelvic veins. Treatment. Most important treatment of all is systemic.

5. Historical Summary of the Treatment of Uterine Fibroids.

WALTER P. MANTON, Detroit.

This paper reviews the treatment of uterine fibroids from the pre-operative period to the present, and is largely a record of personal experience. The older views regarding fibroids are presented, and the early treatment of these neoplasms by means of ergot and electricity are given with illustrative cases. The supravaginal hysterectomy by means of the clamp, and the improved methods of Baer and Goffe are mentioned. Total hysterectomy is dealt with and the operation for myomectomy considered. The object of the paper is to impress the dangers resulting from these so-called benign neoplasms, and to point out the diagnosis and differentiating of these tumors from other and associated conditions.

COUNTY SECRETARIES ASSOCIATION

Tuesday, September 26, 1911

Wayne County Medical Bldg., 33 E. High St.

2:00 P. M.

President—V. A. Chapman, Muskegon.
Vice-president—D. Conboy, Bad Axe.
Secretary—W. C. Garvin, Millington.

1. Presidential Address—
   V. A. Chapman, Muskegon.
2. Poor Attendance—Its Cause and Cure.
   G. H. Thomas (Ottawa), Holland.
3. Enthusiasm in County Societies.
   H. L. Bower (Montcalm), Greenville.
4. Factors which Increase Attendance and Interest in County Meetings.
   C. E. Boys (Kalamazoo Acad), Kalamazoo.
5. Value of Clinics at Society Meetings.
   R. C. Jamieson (Wayne), Detroit.
6. Address.
   Alexander R. Craig (Sec. A. M. A.), Chicago.
7. Relation of County Secretaries and State Secretary.

Wilfrid Haughey (State Secretary), Battle Creek.

8. Administration of Medical Practice Law.
   B. D. Harison, Detroit.
9. General Discussion.
10. Election of Officers.

HOUSE OF DELEGATES

Delegates and Alternates to the Forty-sixth Annual Meeting

Note.—The Black Face name is that of the delegate the other, that of the alternate.

Alpena—Branch No. 46

C. M. Williams, Alpena.
E. E. McKnight, Alpena.

Antrim—Branch No. 65

F. S. Hoag, Alden.
R. H. Nichols, Bellaire.

Barry—Branch No. 26

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Bay—Branch No. 4

J. W. Hauxhurst, Bay City.
R. W. Brown, Bay City.

Benzie—Branch No. 59

H. J. Keene, Frankfort.
C. P. Doyle, Frankfort.

Berrien—Branch No. 50

C. N. Sowers, Benton Harbor.
J. D. Greenamyer, Niles.

Branch—Branch No. 9

H. W. Whitmore, Quincy.
E. E. Handcock, Girard.

Calhoun—Branch No. 1

J. C. Brown, Battle Creek.
A. W. Alvord, Battle Creek.
Geo. C. Hafford, Albion.
A. J. Abbott, Albion.

Cass—Branch No. 36

W. C. McCutcheon, Cassopolis.
E. A. Planck, Union.

Charlevoix—Branch No. 37

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Cheboygan—Branch No. 58

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Chippewa—Branch No. 35

J. Gostanian, Sault Ste. Marie.
Fred Townsend, Sault Ste. Marie.

Clinton—Branch No. 39

M. Weller, St. Johns.
F. C. Dunn, St. Johns.

Delta—Branch No. 38

W. A. Lemire, Escanaba.
G. W. Moll, Foster City.

Dickinson—Branch No. 56

J. A. Crowell, Iron Mountain.

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Eaton—Branch No. 10

P. H. Quick, Olivet.
A. R. Stealey, Charlotte.

Emmet—Branch No. 41

J. J. Reycraft, Petoskey.
F. C. Witter, Petoskey.

Genesee—Branch No. 24

H. E. Randall, Flint.
A. R. Ingram, Linton.
J. W. Handy, Flint.
G. W. Robb, Flushing.

Gogebic—Branch No. 52

E. Madajeski, Bessemer.
L. O. Houghton, Ironwood.

Grand Traverse—Branch No. 18

J. M. Wilhelm, Traverse City.
R. E. Wells, Traverse City.

Gratiot—Branch No. 25

E. M. Highfield, Riverdale.
E. H. Faust, Ithaca.

Hillsdale—Branch No. 3

W. H. Sawyer, Hillsdale.
Bion Whelan, Hillsdale.

Houghton—Branch No. 7

John MacRae, Calumet.
W. H. Matchette, Hancock.

Huron—Branch No. 47

B. F. Friedlander, Sebewaing.
D. J. Monroe, Elkton.

Ingham—Branch No. 40

L. W. Toles, Lansing.
M. L. Holm, Lansing.

Ionia—Branch No. 16

C. S. Cope, Ionia.
J. J. McCann, Ionia.

Isabella-Clare—Branch No. 54

C. M. Baskerville, Mount Pleasant.
C. D. Pullen, Mount Pleasant.

Jackson—Branch No. 27

J. C. Kugler, Jackson.
C. D. Monro, Jackson.

Kalamazoo Academy—Branch No. 64

W. F. Hoyt, Paw Paw.
W. A. Stone, Kalamazoo.
J. C. Maxwell, Paw Paw.
J. B. Jackson, Kalamazoo.

Kent—Branch No. 49

W. J. DuBois, Grand Rapids.
J. D. Brook, Grandville.
C. H. Johnston, Grand Rapids.
Eugene Boise, Grand Rapids.
J. M. DeKracken, Grand Rapids.
F. C. Warnshuis, Grand Rapids.

Lapeer—Branch No. 23

John P. Eggleston, Imlay City.
Peter Stewart, Hadley.

Lenawee—Branch No. 51

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Livingston—Branch No. 6

W. C. Huntington, Howell.
J. E. Browne, Howell.

Macomb—Branch No. 48

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Manistee—Branch No. 19

L. S. Ramsdell, Manistee.

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Marquette-Alger—Branch No. 28

J. H. Andrus, Negaunee.
N. J. Robbins, Negaunee.

Mason—Branch No. 17

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Mescosta—Branch No. 8

G. H. Lynch, Big Rapids.
L. S. Griswold, Big Rapids.

Menominee—Branch No. 55

C. R. Elwood, Menominee.
E. V. McComb, Menominee.

Midland—Branch No. 43

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Monroe—Branch No. 15

C. T. Southworth, Monroe.
Wm. F. Acker, Monroe.

Montcalm—Branch No. 13

A. W. Martin, Howard City.
L. E. Kelsey, Lakeview.

Muskegon-Oceana—Branch No. 61

F. B. Marshall, Muskegon.
W. E. Dockry, Pentwater.

Newaygo—Branch No. 60

L. S. Weaver, Fremont.
S. B. Rolison, Hesperia.

Oakland—Branch No. 5

Mason W. Gray, Pontiac.
H. S. Chapman, Pontiac.

O. M. C. O. R. O—Branch No. 11

L. A. Harris, Gaylord.
C. C. Curnalia, Roscommon.

Ontonagon—Branch No. 66

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Osceola-Lake—Branch No. 30

H. L. Foster, Reed City.
E. N. Heysett, Baldwin.

Ottawa—Branch No. 32

R. J. Walker, Saugatuck.
H. J. Brouwer, Drenthe.

Presque Isle—Branch No. 63

C. L. Carpenter, Onaway.
John Young, Onaway

Saginaw—Branch No. 14

P. S. Windham, Saginaw.
W. L. Dickinson, Saginaw.

Sanilac—Branch No. 20

C. G. Robertson, Sandusky.
G. R. Smith, Carsonville.

Schoolcraft—Branch No. 57

G. M. Livingston, Manistique.
W. J. Saunders, Manistique.

Shiawassee—Branch No. 33

N. T. Parker, Corunna.
J. N. Eldred, Chesaning.

St. Clair—Branch No. 45

C. C. Clancy, Port Huron.
T. E. DeGurse, Marine City.

St. Joseph—Branch No. 29

W. C. Cameron, White Pigeon.
J. H. Moe, Sturgis.

Tri-County—Branch No. 62

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Tuscola—Branch No. 44

C. W. Clark, Caro.
W. C. Garvin, Millington.

Washtenaw—Branch No. 42

R. Peterson, Ann Arbor.
John A. Wessinger, Ann Arbor.
John W. Keating, Ann Arbor.
S. M. Yutzy, Ann Arbor.

Wayne—Branch No. 2

F. B. Walker, Detroit.
G. L. Kiefer, Detroit.
F. W. Robbins, Detroit.
G. E. McKean, Detroit.
C. G. Jennings, Detroit
B. R. Schenck, Detroit.
G. L. Connor, Detroit.
T. A. McGraw, Detroit.
F. B. Tibbals, Detroit.
R. C. Andries, Detroit.
W. J. Wilson, Detroit.
H. A. Freund, Detroit.
James Cleland, Detroit.
W. D. Ford, Detroit.
F. J. W. Maguire, Detroit.
R. C. Jamieson, Detroit.
F. G. Buesser, Detroit.

ANNOUNCEMENTS

The Hotel Pontchartrain will be headquarters and in it will be held all general and section meetings.

Automobiles will meet all incoming trains on the afternoon and evening of September 26th, to convey members and their friends to their hotels, and visiting members are requested to go at once to one of these machines upon arrival.

On the evening of the 26th, there will be open house at the Wayne County Medical Building, where there will be refreshments served and an informal reception at 8 P. M.

A reception, followed by refreshments and an entertainment, will be given at the Hotel Pontchartrain on the evening of the 27th.

During the meeting entertainment will be provided for the ladies.

The Council will meet at the Wayne County Medical Building, 33 E. High St., at 8 P. M., September 26.

The County Secretaries Association will meet at Wayne County Medical Building at 2 P. M. September 26th.

What promises to be one of the most interesting and valuable features of the meeting is a scientific and educational exhibit. This is given as a substitute for the commercial exhibit which was heretofore attached to the meetings.

Negotiations are now under way to obtain contributions from some of the largest and best clinical and scientific laboratories.

Registration September 26th, afternoon and evening, at the Wayne County Medical Building, the 27th and 28th, at the Pontchartrain.

HOTELS

The hotel accommodations are ample, and there will be a list of available boarding houses at the Registration window.

Pontchartrain European (Headquarters)	
without bath	$2 00—$2 50
with bath	3 00— 5 00
Cadillac: European	2 00 and up
American	3 50 and up
Ste. Claire: American—	
without bath	2 50—3 00
with bath	3 50—4 00
Griswold: European	1 00—4 00
Wayne: European	1 00—3 00
Tuller: European	1 50 and up
Metropole; Men only: European	1 00—2 00

COUNTY SOCIETY NEWS

ALPENA

July 25 the State Secretary met with fifteen of the doctors of Alpena and surrounding towns at a chicken dinner at the Country Club, at Long Lake, seven miles from Alpena.

The State Secretary addressed the meeting on "The State Medical Society and its Work." He spoke of the benefits of the County Medical Societies, and urged the affiliation of the Alpena Society with the State Society, which was done. There are thirteen new members and two holding membership now through other counties, besides others in prospect.

Officers were elected as follows:

President, J. D. Dunlop.

Vice-president, E. E. McKnight.

Secretary, C. M. Williams.

Member Medico-legal Committee, E. E. McKnight.

Delegate, C. M. Williams.

Alternate, D. A. Cameron.

Monthly meetings were decided upon.

CHEBOYGAN

July 25 the doctors of Cheboygan met at the office of Dr. C. B. Tweedale, and were addressed by the State Secretary on the "Work and Objects of the Michigan State Medical Society." During the meeting the Cheboygan County Medical Society was re-organized, with a membership of seven, practically all the physicians in the city of Cheboygan. More from the surrounding country are expected to affiliate. The officers elected are:

President, W. F. Reed.

Vice-president, W. E. Chapman.

Secretary-treasurer, C. B. Tweedale.

Member Medico-legal Committee, S. A. St. Amour.

It was decided to meet monthly on the first Tuesday.

CLINTON

Regular meeting August 3, at St. Johns, with a good attendance. A paper on "Infant Feeding" was read by Dr. W. A. Scott, also one on "Medico-legal Protection," by Dr. M. Weller. These papers brought out an interesting discussion by the members present. Adjourned to meet September 7.

JAMES E. TAYLOR, *Secretary*.

GENESEE

The regular quarterly meeting of the Genesee County Medical Society was held at Fenton, July 25, at 3 P. M. Forty members were present. Dr. A. R. Ingram, of Fenton, was elected as a delegate to the annual meeting of the State Society. Dr. Geo. W. Robb, of Flushing, was elected Alternate Delegate. Drs. Wm. E. Shandler and Robt. D. Scott were received as members, and two other physicians were reinstated as members. On recommendation of the Board of Directors, Drs. N. Bates and R. H. Murray were elected as honorary members of the Society. The Society enjoyed a practical paper on Ethics, by Dr. A. G. Wright, of Fenton. Dr. H. E. Randall gave an interesting talk onEuropean Medicine and Surgery, dwelling on Lane's Open Treatment of Fractures and Salvarsan. Dr. G. C. Crandall, Professor of Internal Medicine in the University of St. Louis, Mo., was present as the guest of the Society, and gave an interesting talk on the subjects presented.

Following the discussion the Fenton physicians entertained the members at an elaborate dinner. A rising vote of thanks was presented to the Fenton members for their bountiful hospitality.

C. P. Clark, *Secretary*.

GRAND TRAVERSE

The regular monthly meeting of the Grand Traverse-Leelanaw County Medical Society was held in Dr. Miner's office Tuesday evening, August 1. Minutes of the last meeting were read and approved. A committee of two was appointed to investigate the practice of unlicensed physicians.

It was decided to have Dr. A. S. Warthin give his public lectures on Tuberculosis and Sex Hygiene some time in August.

Dr. Sara Chase read a paper on "Alkaloidal Medication," followed by a general discussion. Dr. Gregory read a paper on "Official Drugs," followed by a discussion. Adjourned.

R. E. WELLS, *Secretary*.

MONTCALM-IONIA

August 3 the Montcalm and Ionia County Medical Societies held their annual picnic at Baldwin Lake, Greenville. At this meeting the druggists and dentists of the two counties were invited, as well as the ladies. Automobiles met the visitors at the trains and conducted them to the Lake and return. About a hundred guests were gathered around the table for dinner. Following dinner the "Three D Club," consisting of doctors, dentists and druggists of Ionia and Montcalm Counties, was organized. This club will conduct the annual picnic in the future. The dinner was followed by many enjoyable toasts, Dr. Wilfrid Haughey, State Secretary, acting as toastmaster. Dr. Bower's toast was particularly appropriate, as he read the Legend of Baldwin Lake.

MUSKEGON-OCEANA

Regular meeting of the Muskegon-Oceana County Medical Society was held at "Siegelwold Cottage," at Clear Lake, near Holton, Friday afternoon, August 4, 1911, the guests of Dr. Black.

Members present: Drs. Geo. S. Williams, G. J. Hartman, F. W. Garber, B. F. Black, I. M. J. Hotvedt, W. A. Campbell, L. I. Powers, R. G. Olson, J. F. Denslow, W. L. Griffin, P. A. Quick, Jacob Oosting, W. P. Gamber, J. D. Buskirk, J. H. Nicholson, G. F. Lamb, J. T. Cramer, A. A. Smith, F. B. Marshall, L. P. Munger, P. J. Sullivan and V. A. Chapman. As visiting physicians, not members of the Society, Dr. S. B. Rolison, of Hesperia; Dr. Geo. L. Le Fevre and C. J. Durham, of Muskegon; Dr. L. Dretzka, of Mercy Hospital; Dr. A. C. Parker, of Hackley Hospital, Muskegon; and Dr. Gerling, of Reeman. From Fremont, Drs. Wm. H. Barnum, Geo. G. Burns, Nicholas De Haas, Chas. Long, J. W. McNabb, G. W. Nafe, and L. S. Weaver were guests. Also several bankers and business men from Pentwater, Fremont and Holton.

Minutes of last meeting were read and approved as read.

Reading of communication from Mrs. C. P. Donelson, thanking the Society for its floral tribute and attendance at the funeral of Dr. Donelson. It was moved, seconded and carried that a copy be spread upon the minutes of this meeting.

"To the Members of the Muskegon-Oceana County Medical Society:

"Dear Sirs:—You were Charles Park Donelson's dearest friends, of like thought and occupation, and, I feel, mourn with me, his loss being a personal sorrow.

"Your place at service almost seemed like protecting arms outstretched to save the living.

"Your busy, hurried lives, so full of care and responsibility, you manifested by your presence a willing sacrifice. Others I know were there in thought, though the unfortunate demanded their immediate care.

"For the floral tribute as a beautiful expression of your love, I thank you. It is all appreciated, my being for thirty-eight years the companion of one of you.

"Very sincerely yours,

"Mary A. Donelson.

"July 18th, 1911."

The president called upon Dr. A. A. Smith for resolutions concerning the death of Dr. Donelson. Dr. Smith presented resolutions. It was moved, seconded and carried that these resolutions be accepted and spread upon the minutes of this meeting, and a copy be sent to the widow and daughter.

When the great and benevolent Author of our creation decrees that our existence upon this earthly sphere of action shall come to an end, and resolves to lay low the mortal frame of acquaintance, friend, or associate, there is naught for man to do but submit to the inevitable, and become reconciled to that Will that doeth all things well. Death is the fate of all mankind; the grave our common resting-place. There all ranks are leveled; there all distinctions cease.

The message summoning our late associate, Charles Park Donelson, to the great Beyond came early on the morning of July 15, 1911. It was preceded by a short illness, the brevity of which only served to emphasize the immutable certainty of death and how little it sometimes takes to snuff out the flame of life.

Dr. Donelson was born in the year of 1847. He was well and liberally educated and a graduate of one of the country's leading universities. Choosing medicine for his life's calling, he graduated in that profession and entered upon its practice while yet quite young, and at the time of his death had been engaged in its pursuit nearly forty years. His life was an active one, and the experience gained therefrom was in direct proportion to its length and intensity. As well

ripened fruit has a flavor that distinguishes it and marks its quality, so may it be said of Dr. Donelson that his mind was possessed of a flavor only to be obtained by a long and rich experience tempered by thought and reflection. During the last few years of his life the instances were by no means rare which clearly evidenced him as one well matured in thought and mellowed in judgment and disposition. He was liberal, broad-minded and comprehensive. Personally he was affable, gentle, genial, sympathetic,—qualities which endeared him to a host of acquaintances. These will remember with affection his many kindly traits, and deeply regret his departure. His more immediate associates in the practice of medicine will remember him as one whose genial disposition made it a pleasure for one to meet; one whose presence and attendance at our meetings and conventions was ever welcome; and one whose utterances were always accorded that respect given only to those who have something of value to say. He lived a useful life. His reward is the gratitude of the many whose sufferings he relieved and to whose comfort he contributed.

Resolved, That in the death of Charles Park Donelson, M. D., the Muskegon-Oceana County Medical Society has sustained a deep-felt bereavement; that his untimely taking off terminates a period of long association filled with incidents and events of interest and pleasure to remember; that his loss we deplore and his memory we revere.

Resolved, That this resolution be spread upon the Record Book of this association, and a typewritten copy transmitted to the widow and daughter of our late associate.

Geo. S. Williams, M. D.,
A. A. Smith, M. D.,
V. A. Chapman, M. D.,
Committee on Resolutions upon the death of Charles Park Donelson.

Muskegon-Oceana County Medical Society, Muskegon, Mich., August 4, 1911.

It was moved and seconded that a vote of thanks be extended to Dr. Smith for formulating the resolutions. Carried.

Dr. De Haas read the paper of the day on "Lues, Past and Present." The President called upon Dr. Hotvedt to open the discussion, who was followed by Drs. Marshall, A. A. Smith, Geo. L. Fevre and others.

Dr. Denslow moved, seconded by several, that a vote of thanks be extended to Dr. De Haas for the paper. Carried.

Moved by Dr. Campbell and amended by Dr. Gamber that invitation be extended to Newaygo County physicians to become members of the Muskegon-Oceana County Medical Society. Seconded by Dr. Chapman, and unanimously carried.

Meeting adjourned to dinner at "Siegelwold Cottage." Forty-seven members and guests were seated at dinner. After dinner a rare musical program was presented by Mr. and Mrs. S. Siegel, Mr. and Mrs. Maier, and Mr. and Mrs. A. Siegel.

Nearly a dozen automobiles brought the members and guests, some coming from a distance of fifty-five miles.

This was one of the most successful meetings in the history of this Society.

V. A. Chapman, *Secretary*.

UPPER PENINSULA MEDICAL SOCIETY

The Nineteenth annual meeting of the Upper Peninsula Medical Society was held in Escanaba July 27–28. There were about fifty physicians in attendance. The meeting was called to order by Dr. A. J. Carlson, of Escanaba, with the following program:

1. Invocation.
Rev. F. E. Spence, Escanaba.
2. Address of Welcome.
Hon. J. S. Lindsey, Mayor.
3. President's Address: Progress of Medicine During the past thirty-five years.
C. J .Ennis, Sault Ste. Marie.

After reading the Presidential address, Dr. Ennis assumed the chair.

4. Address by the Secretary of the Michigan State Medical Society.
Wilfrid Haughey, Battle Creek.
5. Am I My Brother's Keeper?
E. T. Abrams, Dollar Bay.
6. Diagnosis of Non-penetrating Wounds of the Abdomen.
A. S. Kitchen, Escanaba.
7. Goiter.
H. M. Joy, Calumet.
8. Ununited Fractures.
A. W. Hornbogen, Marquette.
9. Repair of the Perineum.
F. Townsend, Sault Ste. Marie.

The meeting adjourned to the Royal Theatre, where films of special interest to medical men were shown, demonstrating the transmission of tuberculosis, typhoid fever, etc., by means of flies, and other materials. These pictures, some of which exhibited a story used to teach the sani-

tary fact desired, were very interesting, and entertained the assembled doctors for an hour.

The banquet in the evening tendered the visitors by the Delta County Medical Society was a decided success. There were about seventy-five in attendance, who did justice to an elaborate menu. The menu card, printed on bird's-eye maple veneering sheets, was unique.

Rev. Fr. Barth chose for his toast, "The Papal Body-doctors," and in forceful, eloquent language defended the Papacy against the charge of discouraging scientific advancement. He mentioned name after name of men famous as physicians or scientific investigators who were the popes' doctors. One pope was himself a doctor. The man who wrote the first modern text book on anatomy was physician to the very pope whom some historians claim issued a "bull" prohibiting dissection. "The bull" in question simply prohibited the boiling of the bones of pilgrims dying in Palestine so as to bring their bones home. Every one present enjoyed this toast.

Rev. Spence spoke eloquently of the relations between physicians of the soul and of the body.

Dr. Abrams, by request, read again his paper, "Am I My Brother's Keeper?" and this address gained force by repetition. It will be published in the next JOURNAL.

Many others responded to toasts, and the hours flew past until 4 A. M.

Officers elected for next year:

Pres., Chas. L. Girard, Escanaba.

Vice-Pres., H. J. Hornbogen, Marquette.

Sec., C. R. Elwood, Menominee.

The meeting next year will be held at Menominee.

DETROIT ACADEMY OF MEDICINE

At a special meeting of the Detroit Academy of Medicine the following In Memoriam of Doctor Henry A. Cleland was presented by Doctor Hitchcock.

It was voted that a copy be sent to Miss Cleland, another to the JOURNAL of the Michigan State Medical Society, and the original spread on the records of the Academy.

GUY L. CONNOR, *Secretary.*

IN MEMORIAM OF HENRY A. CLELAND

Dr. Cleland, though not of advanced years, had for long been little among us, owing to his physical infirmities.

Born at Sterling, Scotland, he was but seventy-two at the time of his death, July 19, 1911, but he had lived a full and honored life, a life of faithful service to many to whom he had greatly endeared himself. He went in and out among us, respected and esteemed, even greatly loved by those who perhaps knew him best and looked to him for counsel and advice. He possessed to an eminent degree many of those sterling qualities which Ian Mac Laren so well portrays as tenderly binding "Weelum Mac Clure" to the people of the glen.

Though modest and retiring in demeanor, Dr. Cleland possessed a Scotch tenacity of opinion which ever gave him the courage of his convictions. He was always esteemed by the profession as an excellent practitioner of the older school and a wise counsellor. He had served long and faithfully upon the staffs of Harper and the Children's Free Hospital, and had served his country in the Civil War as surgeon, was a prisoner in Libby Prison, and was the recipient of a medal for conspicuous bravery.

He took great interest and pleasure in the Academy, and was long a faithful attendant at its meetings and participant in its discussions. He was one of its fourteen charter members, and his active fellowship continued from September 21, 1869, to February, 1903, when he was transferred to the list of Honorary Fellows.

He served the Academy as Counsellor and President, and was a valued and honored member. An active fellowship of thirty-four years is a long and notable period of service, and few depart this life with character more unblemished, life more unsullied.

It is well for the Academy to inscribe upon its records this testimonial of its deep appreciation of the rugged character of our late fellow and the value of a life so well and honorably rounded. A man of upright Christian life, full of service to many, he has gone to a well-earned reward.

NEWS

Dr. Bert R. Shurley, of Detroit, was elected Secretary of the Section on Oto-laryngology at the recent meeting of the American Medical Association.

The Michigan Registrations at the meeting of the American Medical Association at Los Angeles were as follows. (Total registration, 2,153.)

W. R. Ballard, Bay City; J. H. Boulter, Detroit; Louis J. Hirschman, Detroit; C. H. Sample, Saginaw; D. E. Fuller, Hastings; Richard R. Smith, Grand Rapids; A. E. Adams, Bellevue; F. P. Bender, Caro; R. W. Brown, Bay City;

John Kremer, Grand Rapids; Henry Kremers, Holland; G. M. Livingston, Manistique; G. L. North, Tecumseh; Jos. S. Platt, Port Huron; Frank D. Wheeler, Detroit; Albert J. Read, Battle Creek; Herbert R. Conklin, Tecumseh; Henry M. Cunningham, Marquette; Burt R. Shurley, Detroit; E. M. Houghton, Detroit; Arthur D. Holmes, Detroit;Reuben Maurits, Grand Rapids; W. F. English, Saginaw.

The many cottage owners and resorters in Coldwater, Mich., have been given some rules by the local health board, which at this time of year might be of interest to "campers" and "resorters" everywhere: "Where there is no water or sewer system, the dry earth closet should be installed. The contents of the same should be removed and buried at least once a month during the resort season, and oftener if necessary. A garbage can or barrel, with a tight-fitting cover, should be used at every cottage, and the contents must be removed two or three times a week and buried at least one foot under ground. Throwing tin cans or bottles on the beach or on the ground is prohibited. A covered barrel or box should be placed at the rear of each cottage for receiving such refuse."

The Secretary of the State Board of Health announces the following measures and plans recently instituted by the Board. A health train equipped with a large collection of charts, models, demonstrations, etc., relating to preventive medicine, made a trip throughout the southern section of the State early in August; a pamphlet has been printed to be used by the teachers in public schools as an instruction manual on the physical examination of children, with special reference to defective conditions of the eye, ear, nose, mouth and throat; the resolution forbidding the use of the common drinking-cup in railroad cars, depots, schools, etc., is being enforced; an expert in the study of eugenics has been employed to make a careful study along this line; a permanent educational committeehas been appointed to plan, arrange and hold sanitary institutes, engage lecturers, etc., in the interest of preventive medicine; ten State sanitary conventions will be held throughout the State during the winter; the secretary has commenced the publication of a weekly bulletin; plans have been made for a series of health officers' conventions; and provision has been made for a medical inspector to work especially in the investigation of water, milk and other food supplies.

Dr. Francis J. W. Maguire, Detroit, has been severely ill with septicemia, due to an operation wound.

Dr. E. T. Abrams, of Dollar Bay, has been appointed member of the State Board of Health, vice Geo. S. Harrington, of Kalamazoo, an undertaker.

At the last meeting of the State Board of Health a motion was passed making poliomyelitis, glanders, actinomycosis, cholera and puerperal fever reportable diseases.

Dr. Kenneth Kilbourn, Detroit, fell down the companionway of a steamer, while crossing the Straits of Mackinac, July 7, and sustained severe injury to the spine.

By the will of the late Charles S. Chase, $100,000 is bequeathed to the Harper Hospital, Detroit. The income is to be used for the establishment of free beds, and for the offering of prizes for research work looking toward the cure of cancer. It is to be called the Chase fund, in memory of the father, mother and brother of the deceased. Mr. Chase also bequeathed $5,000 to Dr. W. C. Martin, his physician.

A federal public health and marine hospital will be established at Bay City, Mich., by the Treasury Department, and Dr. W. Herrick, of that city, has been appointed physician in charge. For the present the hospital will be located in Mercy Hospital, but eventually a building will be erected by the government. The establishment of the hospital has been a matter of effort for over five years. The growing marine business has forced the government to act.

The annual meeting of the board of trustees of the Michigan Sanatorium for Tuberculosis, Howell, was held July 11. The superintendent announced that twenty-five more patients can be accommodated in the new buildings now available, and an appropriation has been granted by the legislature for additional buildings. J. A. Heath, Richmond, was elected president; Dr. Wilbert B. Hinsdale, Ann Arbor, secretary, and G. W. Teeples, Pinckney, treasurer.

The first annual reunion of the Michiganaw Association, composed of members of the faculties and graduates of the Michigan College of Medicine and Surgery and the Saginaw Valley

Medieal College, was held in Detroit, July 12–14. The Assoeiation has a membership of about six hundred. Dr. John G. Kirker was eleeted president, Dr. Vine LaRue Smith, vice-president, Dr. Martin V. Meddaugh, secretary, and Dr. Berthold Bertram, treasurer, all of Detroit.

August 12th the west part of the old Medieal Building at the University of Michigan burned. It is supposed that the fire was of incendiary origin, as there were no live wires, and the building was being used solely for stores. The Regents asked the Legislature for an appropriation for better fire proteetion on the Campus only last spring, but it was not granted. The need of better protection was shown at this fire, for the water pressure was exhausted, and the pumps in the engineering department had to pump water from the naval testing tank.

"The health board of Saginaw, Mich., will not abolish the publie drinking-eups, as ordered by the State board. President Tanner, of Saginaw, says the State Board of Health has no authority to issue such an arbitrary order. Saginaw dug wells and seeured fine water for its people to drink, and the Board of Health will do nothing to hinder its residents or visitors from drinking all the water they desire. Cups will be retained at these wells for public use, and Saginaw will take the chances of a surplus of germs."

The above interview does not present the ideas of the Board of Health or the Health Officer of Saginaw, but simply those of Mr. Tanner, and has sinee been modified, so that he does not favor the abolition of the eommon drinking eups until the city furnishes spouting drinking fountains.

That the farmers of the district surrounding Detroit have been enlisted in the campaign for pure milk started by the Board of Health, is a condition credit for which is due to the Detroit Health Board. Much of the milk that is shipped into the eity eomes from the northern and western parts of the State. Because of the campaign earlier in the summer, and the condemning of all milk carrying even the slightest taint, farmers now take extraordinary measures to protect shipments against overheating. At the milk depots the farmers pay particular attention to the handling of the fluid, eautioning the railway employes against rough usage of the cans. Now the milk doesn't stand for hours before being taken on the cars, neither is it permitted to be exposed to the sun's rays for any considerable length of time. Farmers have supplied themselves with new cans, and under existing conditions there are twenty-five gallons of milk in a twenty-five gallon ean. Formerly, with the dents in the reeeptaeles, many of them contained only twenty-two or twenty-three gallons. As soon as the milk is brought to the depot it is covered with ice, and farmers stay on guard until the eoming of the "milk speeial."

BOOK NOTICES

Manual of Diseases of the Ear, Nose and Throat. By John Johnson Kyle, B. S., M. D., Professor of Otology, Rhinology, and Laryngology, in Indiana University School of Medicine. Third edition, revised and enlarged, with 176 illustrations. Philadelphia: P. Blackiston's Son & Co., 1911. $3.00 net.

This is a beautifully exeeuted book with flexible leather eover, round eorners, a good quality book paper, and type that is easily and eomfortably read. The subjeets of ear, nose and throat diseases are handled suffieiently at length for the general practitioner, and in a pleasing style.

The illustrations are frequent and to the point. Diseases of a partieular region or system of tissues are taken up by themselves and handled in a eomprehensive manner so as to bring out the differential diagnosis. Treatment is especially good.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart A. Hare, M. D., and Leighton F. Appleman, M. D., June 1, 1911. Lea & Febiger, Philadelphia and New York. $6.00 per annum.

This book covers the progress of the year in Hernia, as told by Wm. B. Coley; Surgery of the Abdomen exclusive of Hernia, by Arpad G. Gerster; Gyneeology, by John G. Clark; Diseases of the Blood, Diathetic and Metabolic Diseases, Diseases of the Thyroid Gland, Nutrition and the Lymphatic System, by Alfred Stengel; Ophthalmology, by Edward Jackson.

This eorps of reviewers will be read with eonfidence and pleasure by medieal men everywhere, and the subjeets treated by them are in every sense up to the standard set so many years by Progressive Medicine.

The Practical Medicine Series. Comprising ten volumes of the year's progress in medicine and surgery under the general editorial charge of Gustavus P. Head, M. D., and Charles L. Mix, A. M., M. D. Volume III, the Eye, Ear, Nose and Throat. Edited by Casey A. Wood, C. M., M. D., D. C. L., Albert H. Andrews, M. D., and Gustavus P. Head, M. D. Series 1911, Chicago: The Year Book Publishers, $1.50. Series ten volumes, $10.00.

This book, like all the others of the series, eontains in a concise form all the more important advanees in the field covered during the past year.

The discussion relative to the value of the Major Smith cataract operation is given. Rhoade's method of avoiding the circle of color, or of light, at the edge of rimless lenses, is given, with illustrations.

The more and more important tonsil receives many pages of most interesting and instructive treatment. The whole book makes a handy ready reference to medical and surgical advance, and gives references to the original reports referred to.

Golden Rules of Pediatrics. By John Zahorsky, A. B., M. D., Chemical Professor of Pediatrics Medical Department, Washington University, St. Louis. C. V. Mosby Co., 1911. $3.00.

An idea of the scope of this work may be obtained by referring to a few random quotations on page 348, July JOURNAL. The book is well arranged, Part I being composed of Golden Rules of Diagnosis, Part II, Prognosis, Part III, Hygiene and Infant Feeding, Part IV, Treatment, Part V, Formulary.

The aphorisms which constitute the text are inter-related, many being a necessary complement of the proceeding, but most of them are complete in themselves.

Each paragraph is introduced by a black face heading, — Remember, Do not fail, Always examine, Do not mistake, and the like,—phrases which will help to remember the thought expressed.

Hospital Management. A Hand-book for Hospital Trustees, Superintendents, Training School Principals, Physicians, and all who are actively engaged in promoting hospital work. By Charlotte A. Aikens, author of "Hospital Training-school Methods and the Head Nurse;" "Primary Studies for Nurses;" "Clinical Studies for Nurses." 12mo of 488 pages. illustrated. Philadelphia and London: W. B. Saunders Company. 1911. Cloth, $3.00 net.

In the above described book Editor Charlotte A. Aikens and her twenty contributors have given us a work filled with good things for those who manage or propose to manage hospitals to know. In the consideration of the American Hospital Field, many interesting points, as the need, finances, size, management, departments, superintendent, nurses, etc., are discussed, and much information as to how these phases are met in this and foreign countries is brought out.

In the question of actual management and conduct of hospitals, the authors go deeply into detail and also urge strongly that originality in solving questions of detail be encouraged and fostered by intercommunication, by means of papers, meetings, etc., between superintendents, and the practical application of these originalities as demonstrated in one hospital be reported to others to the end that economy and comfort from improvement in details be arrived at by actual experiment and trial rather than by the greatest common divisor of opinion of the Clergyman, the Doctor and the Nurse.

The book treats of the duties of all connected with hospital work, and gives in detail answers to hundreds of perplexing problems that arise each and every day. The illustrations are profuse and instructive. No hospital library should be without this work. Any hospital worker will be able to get from its pages many times the value of the three dollars the book costs.

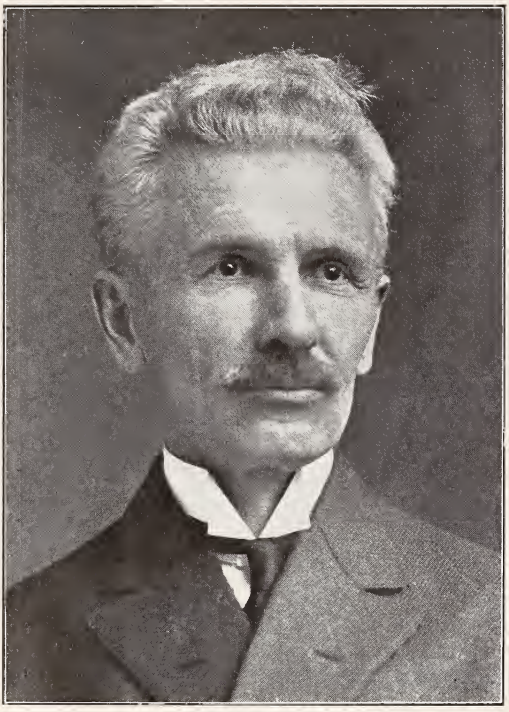
A Treatise on Diseases of the Skin. For the use of advanced students and practitioners. By Henry W. Stelwagon, M. D., Ph. D., Professor of Dermatology, Jefferson Medical College, Philadelphia. Sixth edition, revised. Handsome octavo of 1195 pages, with 289 text-illustrations, and 34 full-colored and half-tone plates, Philadelphia and London: W. B. Saunders Company. 1910. Cloth, $6.00 net; half morocco, $7.50 net.

The latest edition of this book maintains in all respects the standard of excellence set by its predecessors, and is again recommended with enthusiasm to the student and practitioner.

Since the date of the fifth edition, so much of interest has been added to the literature of dermatological science that the book has again been enlarged to meet present requirements. Articles have been added on a considerable number of subjects, as carbon dioxide snow, granuloma annulare, lichen nitidus, grain mite dermatitis, gangosa, tropical ulcers, sporotrichosis, brown-tailed moth, pediculoides ventricosis, and ulcerating granuloma of the pudenda.

Those wishing to pursue their subjects further will be pleased to find an enlarged and very full list of references, especially on treatment.

The article on pellagra has been rewritten and brought up to date. In the diagnosis there is found a new paragraph on the Wassermann reaction, but the book antedates the advent of "Salvarsan" in the treatment. The new articles on the tropical diseases round out the value of the book as a general work. Some less helpful cuts have been dropped, but the total number has been added to by the number of about twenty, principally photographs, and all are clear and of a distinct advantage. The illustrations number 289 in the text and 34 full-page colored and half-tone plates.



C. B. Burr, M. D.

President Michigan State Medical Society 1910-11

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ORIGINAL ARTICLES

PARANOIA AND CERTAIN PARANOID CONDITIONS IN THEIR RELATIONS TO THE PUBLIC AND THE PROFESSION

PRESIDENT'S ADDRESS AT THE OPENING OF THE FORTY-SIXTH ANNUAL MEETING OF THE MICHIGAN STATE MEDICAL SOCIETY, DETROIT, SEPTEMBER 27, 1911

C. B. BURR, M. D.,
Flint, Mich.

I shall not take the time for lengthy expression of thanks for your consideration in electing me to this, the highest office in the gift of the Society. No previous honor has been to me the source of so much satisfaction. The opportunity to fill a chair occupied by many distinguished predecessors adds to the debt of gratitude owing to a profession in the membership of which it has been my privilege to number for many years my choicest friends, and which, as a body, commands my unbounded and unalterable respect.

A bill framed by the Legislative Committee, approved by the Council of the Society, and voicing the sentiments expressed at the last annual meeting, failed to become law. It had loyal support and its passage was judiciously and painstakingly promoted, but the reasons for failure were obvious. Chief among them was, in my judgment, that it was too ambitious and presumed upon a non-existent and practically unattainable popular sentiment. Its theoretically correct position, that it is the duty of the State to shield the public from the dishonest and incompetent through the maintenance of the State Board of Registration directly from the State Treasury, the public does not and will not admit. It was rightly contended that such a law was in the interest of public health, that it would cause the State Board to be independent of the medical profession, and that the standards adopted or the rules promulgated by the Board need be feared by none except the impostor, the charlatan, and the rascal. However, opposition was so early and emphatically displayed that the bill was foredoomed from the beginning. To be perfectly frank, while believing in the justice of the measure and attempting to carry out the expressed wish of the Society, I was not altogether sympathetic with the attitude taken at Bay City. It seemed to me then

inexpedient, and the conviction of its impracticability has been strengthened by observation during the past year. In the debate at the meeting there was too liberal allowance of sentiment. Looked upon in the light of *renewal of license to practice*, and not as a form of humiliating taxation, another measure proposed by the State Board is wholly unobjectionable. Through a fund thus to have been provided, precedent for which is found in the neighboring provinces of Canada, means for the extension of the work of the State Board would be available and a larger degree of usefulness to the medical profession would accrue. I earnestly hope that the Society will depart from the position half-heartedly enunciated at Bay City, and instruct its Legislative Committee to frame a bill providing for the annual renewal of licenses to practice, the funds available therefrom to be devoted to advancing the standard of requirements and permitting extension of the work of the Board in an important direction, namely, the elimination of the incompetent and the dishonest from the ranks of the profession.

I cannot refrain from congratulating the profession of Wayne County on its home and club. The spirit of organization has done much to promote social relations. The Wayne County Medical Society's success in this enterprise encourages the hope that other county societies may emulate its example and provide permanent meeting places, libraries and club rooms for their members.

It occurred to me in casting about for the subject of an address that it might be well to discuss an important medico-legal problem frequently presenting itself for solution, and, with your indulgence, I will briefly call attention to

PARANOIA AND CERTAIN PARANOID CONDITIONS IN THEIR RELATIONS TO THE PUBLIC AND THE PROFESSION

The identification of paranoia as a distinct form of insanity marked a psychiatrical advance. It has been a useful classification, but like many another subserving an important end, has been very much overloaded. While thirty years ago the term was not in frequent employment even among psychiatrists, it now falls trippingly from the tongue of the jurist, the sociologist, the reporter, and the curb-stone orator, and its definition is stretched to cover a multitude of faults of disposition, eccentricities, and temporary or permanent departures from conventional standards of thinking, feeling and acting. It has been found a convenient cloak to shield from punishment, and it seems important that a clear understanding of its fundamental character should be presented to the medical profession, the members of which themselves often employ the term loosely and without regard to consistency.

What is meant by paranoia? Briefly this is a non-dementing form of disease of slow and insidious development. It is the outgrowth of a morbid personality, the evolution of a crooked stick. Its delusions are logically evolved from false premises, and in their defense the individual is sagacious and shrewd. Its life history is consistent and its progress marked by certain well-defined epochs. There are: 1st, the incipient period; 2nd, the persecutory period; 3rd, the period of developed and logical delusions.

Three decades ago, the world was profoundly shocked by the deliberate and ostentatious assassination of a President of the United States. The assault was made in a public place, and the motive alleged by its vain-glorious and pestiferous

perpetrator was patriotism and public policy. He had no more serious regret for the act which resulted in the death of an excellent citizen than might have been present in the mind of Charlotte Corday after the deed which removed the monster Marat. According to press reports, the assassin was moved to sympathy for the family, but not for the distinguished victim, in whom he recognized merely the representative of a pernicious element in a great political party and a stumbling-block to its progress. Convicted after many weary weeks of waiting on the part of an impatient public, he ascended the gallows, believing himself a martyr to a popular cause, and as the black cap was adjusted, recited doggerel verses indicating confidence in a blissful hereafter for a sanguinary soul.

It is now known that there was lamentable miscarriage of justice in this case, but the public mind was then uninstructed and not in temper to admit that one who deliberately proposed for himself the defense that he was insane,—not in a medical sense but in a formal, technical, legal sense,—was in very truth suffering from mental disease.

Not long after the execution of Guiteau it was my fortune to encounter a case furnishing a striking parallelism. The defense in his case had been that he suffered from paranoia—or, as it was then denominated, following the designation of Krafft-Ebing, primäre Verrücktheit. There had been little in American literature concerning this form of disease previous to the publication in the *American Journal of Medical Sciences* of the case to which allusion is made. In this there had been a homicidal assault upon one who had been appointed special guardian for the purpose of obtaining a pension. The motive was plain, the assault deliberate. The patient entertained extraordinary self-esteem. While serving in the army of the Civil War, he had believed himself the victim of a conspiracy on the part of the commanding generals, Sherman and Grant. He felt that his abilities and meritorious conduct entitled him to promotion from the ranks, but that he was checked on every hand in laudable ambitions. The egregious self-appreciation led him to black-list one and another by whom he felt himself criticized. He had written a rambling and boastful autobiography, and published and circulated it in pamphlet form. He had once made the formal plea of insanity in the attempt to obtain a pension.

A patient under recent observation was a most accomplished workman, and methodical in his methods as a foreman in a large industrial enterprise, but the rule is that the individual lacks application, is dreamy, visionary and unequal to the day to day grind of life. He early acquires vague suspicion of those about him, and is apt to direct this against his employer, his shop superintendent, or some one whose duty it may be to direct his efforts. Gradually there develops the notion of conspiracy and combination to prevent advancement in life, and in this period dangerous impulses are apt to appear. A little later, and a passage in reading, a vivid dream, a sharp emotional experience, or an illness accompanied by visual or auditory hallucinations may furnish a clue to the persecution to which he is subjected. He is thwarted in his laudable undertakings because he is a prophet, a prince or the Saviour. He has been brought up by putative parents to conceal his noble lineage or his divine origin; he is the central figure of a great political party, and to him is delegated the responsibility for certain reforms in the social order looking to the regeneration of the human race. At this time he is peculiarly sus-

ceptible to the suggestion of anarchists and those who would subvert social order: may find himself necessitated to carry into practical effect their dangerous theories. He is a menace to society in any event, even though his mission on earth is alleged to be divine. Occasionally one sees a patient of this kind extremely pious, the founder of a religious sect and of becomingly mild manners. Too often, however, the latter may be speedily abdicated, and the doctrine of fire and sword enunciated in case his egotistic claims to divine inspiration are disregarded.

The patient heretofore mentioned conceived the idea that a large branch factory built for the purpose of producing a line of inexpensive vehicles was constructed and organized for the sole purpose of his humiliation.

Another believes that the institution with which I am connected is a parody on her life. The logical sequence of this delusion is difficult to obtain, but the idea seems to be that because celibacy is enforced therein, she, being unmarried, is naturally adjusted to the condition. A patient admitted to the clinic in Munich two years ago brought with him massive volumes in manuscript decorated with hieroglyphics and symbols indicating divine inspiration. He was the spiritual head of a small religious sect, similar, I dare say, to those founded by the notorious Schlatter and other self-appointed ministers of the Lord. A very common delusion is that of proprietorship in an institution in which the lot of the patient may fall. He accepts confinement and restriction as a part of the magnificent scheme of his life, and adjusts himself to the hospital routine, the environmental horizon being just sufficiently near and small to give outlet to energies and avert the confusion, friction, and irritability incident to contact with more active minds.

The onset of paranoia is gradual. It is a relatively non-dementing process (by this is meant that there is near retention of the original strength of will, of intellect, of emotional expression, of ability to reason and judge as correctly as before on commonplace and impersonal matters).

Delusions are harmonized with the events of the past, are of logical evolution and consistent in expression. There is morbid interpretation of real incidents.

Hallucinations and sensory involvement are infrequent.

Attacks of excitement or of deep depression are rare and when occurring are episodal.

In contrast with the form of disease above outlined is the *paranoid form of dementia præcox*. The existence of dementia præcox implies early reduction of brain force; and hereditary tendency—the neuropathic organization—is an important factor in its development. For example, it was revealed in a recent collection of statistics incident to the preparation of a paper on this subject that in the hospital with which I am connected there was distinct hereditary tendency in about fifty per cent of cases. In the experience of the Psychopathic Hospital, 69.6% gave a history of the occurrence of insanity or equivalent factors among ancestors, and Kraepelin finds clear heredity in 60%.

There are included in the designation, dementia præcox, various forms of disease described under oldtime classifications, as the insanity of pubescence, insanity of masturbation, ovarian insanity, katatonia and stuporous melancholia. Perception and memory may be acute, but reasoning and judgment are not correspondingly developed. These patients are in infancy erratic, hysterical, impulsive, and lacking in inhibitory control. They are subject to headache and frequently break down under school pressure. A physical illness

is in a surprisingly large number of cases a factor in the final nervous and mental collapse. In a recent analysis there was found antecedent illness or injury in no less than 66% of cases.

The word paranoid is associated with that which is expansive, but there is no etymological justification for this. Of the three forms of dementia præcox, the paranoid is the least amenable to treatment. It is differentiated from true paranoia by the rapidly shifting character of the emotional states, by fantastic delusions, by their lack of coherency or of tendency to systematization, by the more frequent hallucinatory phenomena—by the preponderance of eroticism and morbid sexuality (I know of one perfect example of sadism in this group), and by the tendency toward mental enfeeblement. Dementia præcox is, as is well known, a disease of early life, characterized by the tendency to more or less rapid mental enfeeblement. In the progress of the paranoid form, examples of expansive delusions appear, but logical character, persistence in iteration, and unvarying forms employed in the expression of those of paranoia are absent in the paranoid form of dementia præcox.

An excellent illustration is furnished by the following case. The patient was always peculiar, had a bad disposition and a tyrannical will. An attack of acute excitement had occurred. A contributory cause of breaking down was said to be the loss of wife and children in the Iroquois Theater fire, but the remote cause was natural mental instability. He had the delusion that God had directed him to exemplify unselfishness. There was a second attack of maniacal excitement. Afterward he was extremely restless, traveled about with a young woman to whom he was not married, had the delusion that there were spies upon his conduct, that Pinkerton detectives were pursuing him; was careless in the expenditure of money. He replied to questions by the same interrogatory; made motions with his hands as though prevented from speaking; disregarded property rights; laughed in a sly way; was inclined to follow others about, spying upon their actions; was threatening; declared that mentally he was the strongest man in the house. His conversation was punctuated with sly winks and handshakes, and the assurance of willingness to "help things along." He paraphrased Scripture; showed shifting emotional states from irritability to extreme cordiality; had the delusion that he was gifted with unusual strength of vision.

In the paranoid form of dementia præcox there are present: More frequent and obvious original instability; a nervous system extremely susceptible to perturbation; sudden or sharp development; frequent attacks of morbid excitement or depression; shifting quality of the emotional states; bizarre and unsystematized delusional expressions; a tendency to rapid mental deterioration.

And now as to certain paranoid conditions. There are not infrequently encountered among alcoholic cases those showing delusions of suspicion, or persecution, or extravagance. The overweening self-confidence, a marked quality of the habitual tippler, goes over with no lack of readiness into an absurd self-appreciation and extravagance of thinking and doing. Ideas of persecution develop, and it is not difficult to believe that the individual's self-criticism is a basal fact in the impression that the outside world is censorious. Similarly the connection of certain manifestations in these cases with sexual wasting is readily established. That intemperance in drinking implies intemperance in other lines, perhaps goes

without saying. That over-indulgence in the relations consequent upon union of the sexes brings about weakness and ineptitude is too obviously true for adverse comment. In my opinion, it is out of this consciousness of lowered virility that arises the frequent delusion of marital infidelity. In many cases this delusion has been a dominating influence. In one the presence of lettuce, radishes, and onions on the table led to the belief that the patient's wife meditated separation from the home. "Let us re-disunion." Because of this inference the patient brained her with an axe. Such symbolism as this in alcoholic paranoia is rare, but it is common enough that the wife's goings and comings are watched with the utmost care, and all manner of suspicions are awakened by unimportant deviation on her part from outlined plans. A medico-legal case in the East, drawn out *ad nauseam*, bears the ear-marks of this form of disease. In such a case there is extreme difficulty in diagnosticating and evaluing the causative relation of alcohol. Certain patients of feeble nervous endowment take to drink because conscious of intellectual dulness and inability to maintain an appearance among those of their age and social standing without the emotional stimulation furnished by alcoholic imbibition. The story of an alcoholic paranoid condition is interestingly told in a letter from a physician from which the following are extracts:

"In regard to Mr. Blank, I will say that his cousins and brothers say that he always was a queer boy: that he always complained of being singled out for some sort of persecution. About seven or eight years ago he married a young lady who was the victim of whiskey and drugs, I am told. After a year or two of unhappy married life, they were divorced and she married again, but died of pneumonia a year later. Some months after the divorce, I was called to take care of Mr. Blank, who was acting queerly in the apartment house where he had his rooms. He played his pianola all night, made calls on people living in other apartments in his dressing gown at unseasonable hours, and bothered every one; he was loquacious, excited, and clinically could be said to be suffering from acute mania. After about a week's attempt at care in his rooms, in order to avoid the scandal of having people know that he was insane, I took him to —— Sanitarium, near ——, and personally arranged with our newspapers to avoid mention of his illness. At this time he was drinking some whiskey every night, but very little in the day time. He never had any symptoms of delirium tremens, but the whiskey seemed to uncover the badly balanced mentality. After two months in the Sanitarium, his father took him to New York, and I believe Dr. ——, after a cursory examination, pronounced him all right and merely suffering from the effects of alcohol. Mr. Blank has taken alcohol all his life practically, and after his return from the East, he has loafed about the city, doing nothing that I know of except to drink whiskey nights, never showing any drunkenness in the day time, and constantly talking in a queer manner about —— and others, including myself. I never had anything to do with him after his return, but I could see from his demeanor that he did not cherish kindly feelings toward me. Some three months ago he came into the Club, and after waiting around about an hour, he came up to me and recited in a loud voice the following, 'Dr. ——, if you do not stop telling people that I am insane and a —— (meaning sexual pervert), I will kill you.' I told him to go home, that he was sick, and that I was his good friend. He then walked away, but

came back again and recited exactly the same formula, whereupon I told him that I would take him to Probate Court instantly if he did not disappear.

"From the Club, Mr. Blank went to his friend ——, the lawyer for the family, and intended to borrow a revolver. The same evening I received a target with a message from Mr. Blank, saying that his nerve was good and he could hit a bull's eye at thirty paces. Later, I received an envelope full of targets. It appears that he had been practicing in a shooting gallery for some months.

"Some months before this happened, he stood on the street, stopping passers-by, telling them that they must not vote for a certain candidate for mayor because Mr. ——, Dr. —— and myself were in a conspiracy to ruin —— and were behind this candidate. At about this time, Mr. Blank went to the station with a wedding party, and he claims that the officers of the —— were peering out at him from behind telegraph poles and dark corners. He chased people around with a shot gun at his hotel, and the family were afraid of him and unable to do anything with him.

"To my mind, the young man is suffering from an evolutional malady not caused by alcohol at all, but characterized by systematized delusions; in short, that he is suffering from dementia præcox, the alcohol in my mind merely uncovering his real self, and is not causative."

While appreciative of the analysis, I take issue with the opinion, because treatment developed the fact that the delusions were not systematized and subsided speedily. Furthermore, had the delusions been systematized, the diagnosis of dementia præcox would not have been tenable. The expression that the alcohol was instrumental in "uncovering his real self and is not causative," is particularly happy. To my mind this is the whole case,—a paranoid condition developed through alcohol on a pathologic mental base. This condition, like those previously discussed, is equally an insane condition, but as a rule symptoms are lighted into activity by the immediate effect of drink and are in abeyance during periods of abstinence. They may not be dismissed by the examining physician or the medical expert in an insanity inquiry as the effects of drink merely. Their development points to a basal nervous instability, and their victim is quite as much as any of the foregoing classes in need of the restraint, discipline and medical treatment of an institution for mental disease. In the investigation of such cases, the physician must preserve an open mind. To treat symptoms lightly is to eventually do great injury to the patient and to the public. It should not be forgotten that the offhand statement, "He is not insane, but suffering from the effects of liquor," is but half a truth, and it is a duty to look deep into such cases to the end that treatment to restore mental equilibrium may be instituted, the habit of self-control re-established, and the pathological craving for stimulants removed through a hygienic and regular life. Success in the treatment of several cases of this character prompts the expression that many are susceptible of a degree of betterment that will relieve families, the patient, and the public from a grave danger.

A paranoid condition from alcoholism is differentiated from the foregoing insane states by:

1. The presence of a definite provocative factor—alcoholic indulgence.

2. The existence of delusions of persecution and infidelity, possibly also those of an expansive character, all quiescent under abstinence from drink, lighted into extreme activity by the inebriating "c t)

3. The tendency toward recovery under well-directed treatment.

To summarize:

In paranoia there are present—Systematized, persecutory and expansive delusions of a logical character, unvarying in their expression.

In the paranoid form of dementia præcox —Delusions of a persecutory, expansive, erotic character, unsystematized and changing.

In the alcoholic paranoid condition—Definite delusions, mainly of suspicion and distrust; quiescent under ordinary conditions, active under alcoholic indulgence.

The emotional states are in the first group, relatively stable; in the second shifting; in the third turbulent in indulgence in drink, depressed in periods of abstinence.

The first is a non-dementing process, but still prognostically unfavorable; the second, a dementing and also prognostically, unhopeful condition; the third susceptible of betterment under disciplinary control and medical treatment.

The first form of disease renders the victim, *per se*, a perpetual menace to society. In the second form the danger is less pressing because of the admitted insanity and the custodial measures promptly adopted for the obvious condition. The third is a menace to public safety because of the too frequent attributing of departure from the normal solely to drink, and the extraordinary tolerance of the public to the ways of the intemperate. There is a prevalent tendency to unduly excuse unconventional deportment on the ground of inebriety. Indeed, this is regarded an accomplishment in certain quarters. Who has not heard the street corner oracle declare that he would prefer Dr. Doe drunk to Dr. Roe sober?

In closing:

It is highly fitting, it seems to me, that this representative body of the medical profession of Michigan should take action concerning the ruling of the President of the United States, upholding Dr. Wiley in his effort to protect the public from poisonous and deleterious foods. I trust a committee will be appointed to draft resolutions of appreciation and congratulation addressed to the President. It is important to strengthen the hands of an executive who takes a position so advanced, judicious and admirable.

SURGICAL SUGGESTIONS

(*American Journal of Surgery.*)

To perform gastrostomy upon a patient with esophageal obstruction, who can painlessly swallow fluids, is a needless, not to say, a cruel, operation—except as a preliminary to a more radical procedure.

A severe sore feeling in the throat is frequently complained of by nervous individuals. Close inspection will show numerous white spots surrounded by a red areola—herpes.

A peritonsillar abscess as a rule is more painful than serious. But one should not forget that patients have died of suffocation and that erosion of a vessel may take place in the wall of the cavity and cause death.

Pressure from a mediastinal tumor or enlarged tubercular glands will often give rise to an irritative condition of the throat which can in no way be relieved by local measures.

THE PROGRESS OF MEDICAL SCIENCE DURING THE LAST THIRTY-FIVE YEARS*

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A marked feature of this age is scientific research. Many great and useful additions have been made to the world's knowledge within the last thirty-five years.

The acquirement of a fuller knowledge of the properties of steam and electricity and their practical employment have revolutionized the world. Human conveniences have been multiplied and human comforts have increased, but the results of scientific advance have not been merely material—they have made for a greater amity and closer union between men and peoples.

The Medical Science has gone apace with the sister sciences. The physician has been no less active than the physicist and the electrician. Within the three decades a great mass of actual pain has been lifted off suffering humanity—social conditions have been improved, life has been prolonged, and made better and happier.

The world is not ungratefully blind to the fact that progress in medicine and surgery has had an incalculable humanitarian importance. In particular what untold blessings have been conferred on women in the crisis of labor; the art of obstetrics has been established on a scientific basis. The almost entire extermination of puerperal fever is one of the most signal services rendered in our day to humanity. The proper care and treatment of women during and after pregnancy and child-birth has saved innumerable lives.

The medical science can boast no less than any other science as far as progress is concerned. On the contrary, it has rendered a more important service to humanity than any other known science up to the present time. Though our progress is not so visible to the eye as others are,—such as ship-building that made it possible to cross the Atlantic in from five to six days; steam and electricity which revolutionized the commerce of the world and made it possible to travel sixty miles an hour on rail; air ships which fly thousands of feet in the air from the earth like birds but faster; the telegraph, the telephone, the wireless system which in time of war and storm will be of untold benefit, and I cannot forget the horseless vehicles that bring the doctors to suffering patients in no time with a speed of from twenty to one hundred miles an hour. These are some of the very conspicuous results of the present day progress in science that strike the eye, but stop and think of the number of human lives saved as a result of medical advancement and of the great undertakings that sanitation and hygiene have made possible as a result of discoveries of the causes of diseases. It can then be compared more than favorably with the advances made in other branches of science.

Unfortunately there are many who try

*President's address at the 19th annual meeting of the Upper Peninsula Medical Society, July 27, 1911.

to stop the advance of medical discoveries by trying to prevent the laboratory work and animal experimentation. To enumerate some of the advancements in medicine I will take briefly in their order what advances were made during the past thirty-five years.

It was in the recognition of the bacterial origin of puerperal infection that our first advances in obstetrics were made. With the application of aseptic technic to various operations—and the recognition of bacterial nature of infectious diseases, a new era in medicine began. Those of you not familiar with the older obstetrical literature scarcely can realize what was the extent of the ravages of puerperal infection before the introduction of rigid antiseptic precautions in the conduct of labor, nor the almost miraculous revolution which has followed their employment. In preantiseptic times puerperal fever ravaged the lying-in hospitals throughout the world, and each year caused the untimely cutting off of thousands of women in the best years of life. How great the mortality was can best be appreciated by referring to the results obtained in the various civilized countries of the world. Even prior to the etiologic role of the streptococcus, Lefort in 1866 calculated that 30,394 deaths occurred from puerperal fever in the 888,312 women delivered in the hospitals of Paris up to the year 1864, which is 3.5%, or one death in every twenty-seven labors. He stated that from 1860 to 1864 inclusive the mortality in the maternity of Paris was 12.4%, which in December, 1864, rose up to 57%. On the other hand, the mortality outside of the hospitals was less, as only one death occurred out of every 212.

Tenon in 1788 reported that the mortality at the Hotel Dieu for fifteen years prior to 1786 was 6.4%. Charrier recorded 7.5% at the maternity in 1854, and DePaul 5.3% at the Clinique in 1856. Such results caused frequent discussions. Thus following a paper on puerperal fever by Guerard before the Academy de Medicine in 1858, a discussion arose which lasted five months, and which led to no definite conclusions although participated in by the leading authorities in France,—some speakers holding that puerperal fever was contagious, others that it was an unavoidable visitation of Providence. All sorts of theories were advanced as to its origin, but not a word was said concerning the dirty hands of the obstetrician.

The following quotation, which appeared in 1870 from Hervieux's immense work on puerperal infection, will also serve to indicate the gravity of the situation: "The puerperal epidemics are to women what war is to men. Like war they destroy the most healthy, the bravest, and the most useful portion of the population; like war they take subjects in the flower of their youth and spread terror and desolation throughout the territory which they devastate. It belongs to politics to preserve us from the calamities of war, but to medicine is reserved the task of preventing and doing away with such epidemics."

Conditions similar to those in France prevailed likewise in Germany. There, owing to the smaller size of the lying-in hospitals, the epidemics were usually not so extensive.

On behalf of the Berlin Obstetrical Society, Boehr in 1877 undertook to study the mortality from puerperal fever in Prussia, and found that in sixty years, ending with 1875, the appalling number of 363,624 women had died from it in that state alone. Moreover, he calculated that the disease was the cause of 12% of the total number of deaths occurring in both sexes between the ages of fifteen and fifty years, which rates of mortality increased to 18.58% between

the ages of twenty-five and thirty years. The work of Boehr was continued by Ehlers in 1900, who found as a result of aseptic precautions that the mortality in the large cities had been reduced by one-half, but had remained practically unchanged in the country districts.

Epidemics of puerperal fever were reported in the eighteenth century by Hunter, Hulme, Denman, Leake, Clarke, White, and others. The most extensive being that recorded by White in the lying-in hospital at Manchester, where the mortality was 4.1% between the years 1755-1771. Owing to the comparatively small size of the lying-in hospitals of Great Britain, and particularly to the early recognition by English physicians of the contagious nature of puerperal fever, and of its relation to erysipelas, the epidemics were not so widespread nor so fatal as those on the continent. Nevertheless, prior to the antiseptic period the results obtained were very discouraging. Until recently the Rotunda Hospital in Dublin was the only lying-in hospital in the British Empire. Its results have been recorded by Churchill, Kennedy, and Steele. The latter stated that in 198,481 labors occurring up to the year 1870 the average mortality was 1.39%, which rose to 3.27% between 1861 and 1870. Some idea of the seriousness of the conditions were shown in an editorial in the *Lancet* a few weeks after the appearance of Lister's first article on Antiseptic Surgery, recommending the closing of all lying-in hospitals. Moreover, Kennedy in 1869 advocated evacuating the Rotunda Hospital in Dublin and delivering the women in tents or shacks scattered throughout its grounds; while Florence Nightingale considered that large lying-in hospitals could never be conducted safely, and that their employment for the training of students was incompatible with a low death rate.

Following a paper by Spencer Wells, the entire question of puerperal infection was thoroughly discussed before the London Obstetrical Society in 1875. All the prominent medical men of the day took part in the discussion; the general consensus of opinion was that a woman's only safety is to be confined in her own house, where she can have her own nurse and a nurse who has not been anywhere in the way of infection,—without that there is no safety. The danger of contagiousness in the lying-in hospitals is not now, by any means, so great a matter as it used to be, but let us exercise vigilance—we are always sitting on a volcano which may explode at any moment. (Barnes.)

Even after the introduction of antiseptic methods the undesirability of lying-in hospitals continued to persist in England, and as late as 1885 one of the sections of Playfair's text-book on Midwifery was entitled, "Should Lying-in Hospitals be Abolished?" Indeed, the improvement in that country has been less marked than elsewhere. Cullingworth, after studying the statistics of the Registrar General's office for 1897, stated that the general mortality had shown no decrease. Boxal reported a similar condition of affairs as late as 1905. That the United States was not spared in this regard is shown by the fact that Hodge reported a mortality of 5.6% in the Pennsylvania Hospital for the thirty years preceding 1833. Lusk observed an epidemic in the Bellevue Hospital in 1872, with a mortality of 18%, which led to the removal of the department to Blackwell's Island, but even then the infection continued until after the introduction of antiseptic methods. Similar effects were observed in New York where Garrigues noted a mortality of 4.17% for the years 1875 to 1883, which in the latter year, just prior to antiseptic methods, rose to 7.17%.

Although now and then some of the prominent members of our profession, such as Sedillot, Gordon of Aberdeen, Oliver Wendell Holmes, Semmelweis, Simpson, and Farrier insisted on the contagiousness of puerperal fever, it was left to the Hero of Edinburg about 1875 to introduce the antiseptic surgery, which has saved more lives since than any other previous discovery. But progress did not stop there, for prior to that time only a few voices were raised in support of the bacterial nature of puerperal fever, and Lee and Sir Spencer Wells were practically alone in England in advocating it. Indeed, such views did not begin to receive general acceptance until after the great discovery made by the Father of Bacteriology—Pasteur—who cultivated the streptococcus and demonstrated it before the Academy de Medicine de Paris in March, 1879. Following this the development of bacteriology as applied in medicine was slow, and it was not till after the work of Pasteur on putrefaction, the application of his ideas to surgery by Lister, that very rapid advance was made. Indeed, it may be said that extensive development along these lines was not possible until after Koch, by the discovery of solid culture media, had put into our hands a convenient method of isolating and cultivating bacteria.

From this time on the progress was wonderful. The Listerian methods were not adopted in gynecology and obstetrics until after 1875, and for the succeeding few years the chief reliance was placed on the free use of phenol for disinfecting the hands and dressings, and for use as a spray on the external genitalia during the second stage of labor, but disinfection of the hands was slighted, as it was believed that their immersion in a phenol solution for a few moments was sufficient to render them sterile, but this *did not reduce the mortality* until aseptic technic was introduced, which we now employ, which rapidly reduced the puerperal mortality to almost nil.

I shall not take up any more of your valuable time discussing the advances made by serum-therapy, such as antitoxines in diphtheria, tetanus, rabies, antrax, cerebro-spinal-meningitis, cholera, snake-poisoning, plague, dysentery, typhoid and scarlet fevers, also the tuberculin test for the diagnosis of tuberculosis. A very important discovery has been made in determining the cause of syphilis. The late discovery of 606 or salvarsan by Erlich will revolutionize the treatment of that dreadful disease. If it prove effectual, a quicker relief shall be brought to countless sufferers. What is more, other discoveries will surely reward the untiring efforts of the medical heroes who are still working on it. If we seek we shall find, if we continue to investigate we shall discover. There are still laurels for the painstaking scientist.

Without bacteriology and animal experimentation, progress in medicine could never have been such as we see it to-day. The great conquest over disease is the result of a remarkable extension during the last thirty-five years of our knowledge of the nature and causes of the infectious diseases. At no previous time in the history of the world could such a record of triumphant achievement have been attained. Look at the advance of surgery. How many lives are saved to-day because of aseptics and by the knowledge of the cause of infection. It is within our power to control to-day great pestilences, such as yellow fever, plague, tuberculosis, cholera, pernicious malaria, typhoid fever, and infantile diarrhea, because such great men like Koch, Pasteur, Reed, Ross, Carroll and Gorgas, and many other workers in new fields of bacteriology,

have discovered how those diseases originate and spread, and have used sanitary means to prevent their former devastation. It is very gratifying that our country has been able to show to the world one of the most striking examples in the history of preventive medicine by the extermination of yellow fever through the discoveries of Reed and Carroll. The practical application of their researches by Colonel Gorgas has made it possible for this nation to undertake a great engineering task for years considered impossible by scientific men of other peoples. The medical science shall have its share in the glory of the achievement of the Panama Canal, a national dream soon to be realized.

SURGICAL SUGGESTIONS

(*American Journal of Surgery.*)

An injection of bismuth paste may definitively close a troublesome empyema sinus.

Sudden anuria may be the first symptom of a carcinoma of the cervix in an apparently healthy woman.

Callus about a perforating ulcer of the foot is a trophic disturbance not dependent on pressure for its cause.

Courvoisier's law is rarely broken—enlargement of the gall bladder with pronounced jaundice means neoplasm.

When removing stones from the gall ducts don't neglect to explore the hepaticus—with a probe or, better, a narrow blunt spoon.

The healing of a mastoid wound is often hastened by fewer dressings and allowing Nature to do her part in the reparative process.

Persistent tachycardia should indicate a search for other evidences of hyperthyroidism. A goiter is not essential to the diagnosis.

Many a distressing frontal headache may be relieved by reducing the hypertrophy of a middle turbinate, preferably by streaking with trichloracetic acid.

Severe neuralgic pain over the bridge of the nose indicates pressure on the anterior ethmoidal nerve probably due to a high deviation of the nasal septum.

If a patient prepared for ureterolithotomy has a sudden surcease or an exacerbation of pain —and even without these if the stone is quite small—have a final skiagraphic exposure just before operating. If the stone has slipped into the bladder it is better for both patient and surgeon to discover this by the X-ray than by the knife.

Rigidity of the muscles in the flank on deep palpation is as valuable a diagnostic sign as is rigidity of the anterior abdominal muscles. In the presence of a urinary disturbance (e. g., anuria pyuria, hematuria) unilateral tenderness and rigidity in the loin are presumptive evidence of affection of the kidney on that side.

A small erosion of the trachea may give rise to a distressing hemoptysis which differs from a hemorrhage from the lungs in that there are no lung symptoms, no loss of weight or constitutional symptoms, and in that the bleeding occurs in small lumps of clotted blood.

Perforating ulcers and localized gangrenous processes in one or both feet, without other obvious cause (e. g. tabes, diabetes, obliteration of bloodvessels, frost-bite) indicate a careful examination of the spine for an evident or concealed spina bifida.

In the presence of a smooth, hard, fixed and often tender abdominal tumor giving no characteristic symptoms, it is worth while to think of an ectopic or fused kidney—especially if the mass be in the median line or near the pelvis.

AM I MY BROTHER'S KEEPER?*

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In the gray dawn of our historic civilization "when the morning stars sang together," when humanity was still in its cradle of beginnings, we hear man crying out his excuses to Deity when called upon for a presentation of his relationship to his fellow men, "Am I my brother's keeper?" One of the first and most fundamental principles for man to know and realize in this great and wonderful world of ours is: there are other people. He is not the only one who lays claim to existence; to the right to enjoy the wondrous vault of blue at night bedecked with the countless millions of shining worlds, twinkling in the immeasurable distance beyond; to the right to unravel the great mysteries that surround us on every hand in the heavens above or the earth beneath, or the waters under the earth. All these belong to the great family of mankind, and in the exercise and enjoyment of which Omnipotence confers upon all alike the right and privilege.

Mankind viewed as a whole is a solidarity; one part mutually dependent upon the other in order to complete the whole, and so it is in our own great profession. Whatever some one member of it may think, he never has, nor never can live to himself. He can never untie the knot of relationship stamped upon him by God himself to individual and component members of his profession.

We cannot rid ourselves of the obligations to them and say we owe them nothing. So sacred and binding is this relation to others of our profession that, in all this broad world, there is not an individual member who has no right to come to us individually with his hopes and despairs, his brilliant achievements and his dismal failures, and lay claim to our praise on the one hand, and our broad sympathy and helpfulness on the other. We must train ourselves of this profession to think of the other man; we must study to place ourselves in his place and be less prone—

> "To sit in the scorner's seat,
> Or hurl the cynic's ban."

Others have rights and privileges, as well as we, and of these we must think when asserting our own. Glance for a moment back over the history of medicine, and we shall find that the men of past ages, who have been the chief contributors to the building up, growth, and development of the medical profession, have been men of probity, honesty and character. They have been men of broad outlook, large sympathy, and humane feeling, as well as men of studiousness, alertness and mental achievement. In this profession of ours, no man may set his fence a hair's breadth over the line of his brother's ground. No man may gather so much as even a head of his neighbor's wheat, or a cluster of grapes from his vineyard. No man may enter his neighbor's door unbidden; no man may do aught that will harm his neighbor. Other people have in-

*Read at the 19th annual meeting of the Upper Peninsula Medical Society, Escanaba, July 27, 1911.

alienable rights which we may not invade. We each owe to our profession more than its rights and its dues. We owe to it and the men composing it, love, sympathy and a broad and open-mindedness. To many of its members it is not hard to pay this debt. They are themselves broad and lovable men. They are congenial spirits, giving us in return quite as much as we can ever give them. How easy and natural it is for all of us to meet, be kind, gentle and open-hearted to them. But we turn not only the back of cold reserve, but the insinuating sting of hate and jealousy, and the consuming fires of open dislike, treachery and opposition upon all others. Manliness, broad open-mindedness and service are the three bright jewels in the crown of our profession, and this not only to the great world of suffering humanity, but equally to each and every individual member composing that profession. "Most words used by us are leaden; some are silver and some few are gold; among the last is Loyalty," said a great English commander in addressing the young men of Oxford. "The great thing is Loyalty. Write that word in ink of gold and make every letter two feet high."

Human experience all down through the ages has justified the high estimate that we place upon this word. It was Disloyalty that changed Benedict Arnold from the gallant soldier of the Battle of Saratoga to the traitor, despised and loathed by every school child in America for more than a hundred years, and which will still continue to be down through the countless ages yet to come. As failure and oblivion come to the traitor soldier, so failure and nothingness come to the member of our profession who is at heart disloyal,—not only disloyal to the public alone, mark you, but disloyal to himself and his brother practitioner. "Don't praise me," said our martyred McKinley, "but praise my Cabinet." He was surrounded by loyal men.

And so, if medicine has made any advancement, has been a blessing beyond all human computation to the world with its poverty, suffering and death, it has been because of the loyal men which it contains, and not because of the charlatan, the quack or the commercialized doctor, the maternal portion of whose placenta was furnished by an honorable Alma Mater.

Men of affairs, of great organization and grand advancement place upon the head of manly kingship, as one of the greatest of virtues, the diadem of Loyalty.

The two great books of ancient literature are the Iliad and the Odyssey. The first exposes and brings to light the fickleness and disloyalty of the beautiful Helen of Troy, whose life and activities turned a beautiful city into a heap and mass of ruins. The Odyssey, on the other hand, tells of the true Loyalty of Penelope, who, by her virtue, kept her palace and her heart.

Let one wheel of a watch go wrong and the whole timepiece will suffer and lose much of its value, and so it is in any community. Let some one or more members of our profession become jealous and unfaithful to his professional brethren, and our whole profession must thereby lose much of its dignity and usefulness in the eyes of that particular community. The disloyal man in our profession becomes the hissing snake that strikes from the bunch-grass of so-called public welfare. He is the wolf in sheep's clothing of the traitor, sneaking up and attacking from behind his brother practitioner's character, and even life itself.

Our profession is commercialized today more than the early fathers ever dreamed of. With many it is but a trade,

or, at best, only a business undertaking. The old ideas and ideals have little or nothing to do with many of our profession. It is but a means to an end. And that end is money, and money only. Would you get a true insight into the right ideals and ideas which have and are still stimulating men on to lay bare disease in its most secret hiding places; would you know of the true motive power which is the most constant presence in the heart and brain of our profession, that has and is meeting humanity upon the threshold of life, caring for and directing it during the strong years of its usefulness, and softly assuaging its pains and smoothing the wrinkles of sorrow and care in the twilight of life's journey, you must read "Beside the Bonnie Brier Bush," and learn there of the great heart of Dr. William McClure, as portrayed by Ian Maclaren. Read that book and, more powerful than any words of mine can describe, will be opened up before your mind the greatness, the dignity and the humaneness of the medical profession.

Above all ages ours is calling for men of probity, character and loyalty, and in no profession is there greater need among the rank and file than in our own; there is not a business or a profession to-day that does not pay in money value far more, when we take into consideration the time and money invested in them. To years of general education must be added years of technical drill and discipline. Money is even paid for the privilege of doing work gratis. This money has been hard earned; earned perhaps when the body was clamoring for rest. Bye and bye, oh, how long the weary years drag by, graduation day came, and out into the world, with high ideals, you went to plead the cause of suffering humanity. Then came the unlooked for waiting time—decades of time they seemed to you. But, at last, came the time, the opportunity, and you embraced it. Success came, came as it always does to him who is ready and willing to wait for it. But you are not alone in your field. Across the street is a competitor, one whose ideals do not measure up to the true manliness, dignity, and sacredness of our profession. He casts the green eye of jealousy and envy upon your success.

One night when the elements of darkness and blackness seemed to visit the world, and the flashes of lightning betokened the dropping of fire from the infernal region, you were called out in the country to stand between death on the one hand and the unborn child and expectant mother on the other. Can you not remember the drive; how the dumb brute that carried you stopped and refused to move to the persuasive lashings of the whip? All nature seemed to conspire to make night hideous. You and your faithful horse seemed of all of the rest of the world the only ones that were not under shelter. But on you went. You worked 'til daybreak, and drove death back and saved both mother and child. Can you not remember the sense of elation and gratification that were yours on your return home? How, for days, weeks and months profuse thanks were yours from that father on every and all occasions.

One day you noticed a slow but sure falling off of his gratefulness. The next you knew, you were confronted with a malpractice suit because his wife had a bilateral tear of the cervix and a slight tear of the perineum. You were lost in astonishment and amazement; you could not understand; your bill was yet unpaid. You were kind and considerate to the man because, while he was not much good, his wife was a hard-struggling little woman with want and poverty always sitting at her table. This is ever the case. A kind, obliging doctor, a lazy husband, a

meddling woman are all seeds which seem to be essential to the working up of a first class malpractice suit, but even these are not sufficient to bring this nauseous plant out to the full perfection of its hideousness. What has occurred? Back some months ago, when you were too ill to answer calls, or had gone out of town attending clinics to avail yourself of at least some of the rapidly increasing knowledge, so that the people of the community might be sharer in the great benefits brought to us by recent discoveries, your friend across the way was called to see your former patient, who was suffering from some kind of severe abdominal pain. Then it was, after a superficial examination, he gave them this information. "Oh, no," said he, "while I have no doubt you could collect heavy damages, I hardly think I would sue him." This, then, was the gentle cultivator of your malpractice suit.

You may put it down as an axiom that it will take more than the low-down deadbeat, the meddlesome woman, to bring a malpractice suit. It will always need the persistent yet carefully guarded insinuation of a jealous, envious competitor in the profession.

Therefore, the very first thing to do in fighting this class of suits is to catch the doctor in the case and suppress him, and, mark you, he can be caught and he can be suppressed. Don't do it yourself, but let some one else do it for you. Do not manufacture lies, but seek out every proof and every fact and everything that will act as a thumbscrew, then apply them with vigor.

MEDICAL DEFENCE FACTS

Why pay ten or fifteen dollars to a profit company when you can do it for so much less? The following facts as shown by the committee of the State Society should convince you that you are being buncoed. "Seventeen State Societies now give their members protection for one dollar per annum."

"In New York from 1900 to 1910 258 cases came before the Society, 138 were tried, one lost, one appealed, and not a dollar damages paid."

"Paid up membership in our State Society now entitles you to the best legal talent, and defense to the highest court in the State, without further expenses."

"Your State Society will not pay judgments, but the proportion of judgments is so small that the several insurance companies thrive at 10 to 15 dollars, through ignorance of the physicians of the State that their Society does all this at present."

"Every physician is liable to these alleged malpractice suits, and it then becomes an urgent question with you."

"Recently in Fayette County the State settled a case at a cost of $300, and not a penny of cost to the doctor."

At the 1912 meeting the question will come up for action, and in the meantime every county secretary and president of a society should endeavor to instruct their members that they are being fleeced when they pay to an outside insurance company.—*The Medical Program of Washington Co. (Pa.) Medical Society.*

GOITER AND ITS SURGICAL TREATMENT*

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It would be presuming too much upon your time to attempt a thoroughly comprehensive consideration of the subject of goiter in this paper, and I shall therefore try merely to bring out some of the salient features regarding the subject, together with its surgical treatment.

Diseases of the thyroid gland may, for convenience, be divided into functional derangements, inflammations, hypertrophies and tumors (Mayo), the most important of the latter being the various forms of adenoma, carcinoma, sarcoma and cysts.

OCCURRENCE

Goiter may occur as a sporadic affection in any locality, while in others, the so-called goiter belts, it is endemic, as in parts of Switzerland, Lombardy and the Indian Punjab. In this country, according to Dock (1), goiter is most prevalent along the eastern shore of Lake Ontario, parts of Quebec, and parts of Michigan. Alvarez (2) says, "There are towns in the mountainous state of Sonora where goiter is endemic. A large proportion of the women have enlarged thyroids and cases of moderate thyroidism are seen constantly. My observation and experience lead me to believe that the disease may be looked upon as endemic in my own locality and its immediate vicinity."

Regarding the function of the thyroid gland as well as of other glands having an internal secretion, doubtless much remains to be learned, but it seems to have been well established that the thyroid furnishes a secretion, thyro-globulin, essential to metabolism, any alteration of which, whether by increase, decrease, or perversion, is attended by unpleasant and at times disastrous results, as seen in Basedow's Disease or Exophthalmic Goiter, in myxedema or cachexia strumipriva and cretinism. It would also seem to be an established fact that iodine is an essential element of this secretion, and that the secretion is, first, a specific substance necessary for body nutrition, especially of the central nervous system, and, second, that the secretion neutralizes or antagonizes poisonous substances produced by the metabolism of the body (3). McKelvey (idem), says, "Both theories are probable and not inconsistent with each other."

From a hypersecretion we note the well known but frequently overlooked symptoms of Basedow's Disease, varying in intensity with the amount of over-secretion and the susceptibility of the individual to this particular toxin, from a slight tachycardia and scarcely noticeable tremor to a marked tachycardia and tremor, loss of weight, exophthalmos, excessive sweating, warmth and redness of the skin; the latter a result of the dilating effect of the thyroid secretion upon the capillaries, and in the advanced cases, secondary degeneration of the heart-muscle, liver and kidneys.

With a hypo-secretion of the congenital type we note the condition of cretinism

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with lack of development, both mental and physical, and in the acquired type, myxedema and cachexia strumipriva, with the gradually failing mentality, thickening and edema of the skin, loss of hair and defective speech.

ANATOMY

Anatomically the thyroid gland is of interest to the anatomist and surgeon on account of its relation to the important structures of the neck.

The gland consists of two lobes, lying on either side of and against the trachea, to which it is firmly attached, and the isthmus, extending across the trachea at the second and third tracheal rings and connecting the two lobes. The gland is covered by a fibrous capsule which divides posteriorly into two layers, one of which passes behind the esophagus to unite with the corresponding layer from the opposite side, while another layer does the same between the trachea and esophagus (4).

The blood supply of the thyroid gland is peculiarly rich, and is notable for its freedom of anastomosis. The superior thyroid artery given off from the external carotid supplies the upper pole of the gland. It should be noted with reference to ligation of the superior thyroid arteries that division of the vessel frequently occurs outside the gland, the vessel entering the gland by two or more branches. The inferior thyroid artery, from the thyroid axis, enters the capsule below at the hilus. Branches of the superior and inferior arteries penetrate the gland to supply the lobules, these in turn dividing to supply individual follicles and ending in a rich capillary network. The veins are the superior, middle and inferior thyroids, many new veins being formed in diseased glands.

The nerve supply is from the sympathetic. The recurrent laryngeal nerve, of great surgical importance, arising from the pneumogastric, passes behind the gland at the side of the trachea, extending up between the trachea and esophagus. On the right side it lies close to the inferior thyroid artery, passing either over or under it, while on the left side it is sometimes more deeply situated and hence less subject to injury.

The parathyroid glands, described by Sandstrom in 1880, are usually four in number, two on each side, and are also of surgical importance, their injury or removal causing tetany and death. They are usually situated behind the gland and separated from it by connective tissue, though one or more are occasionally found within the capsule or even within the gland itself when their removal with the gland becomes inevitable.

As to function it seems established that the thyroids and parathyroids have no relation, their only relation being an anatomical one, and that the latter control the calcium metabolism of the body as shown by McCallum and Voegtlin (5). This theory would seem to be substantiated by the fact that it is possible to control tetany by the administration of the calcium salts, preferably the lactate, as shown by Thompson and others (6).

ETIOLOGY

The etiology of goiter has been the subject of much discussion. Congenital goiters are occasionally seen, some of them of considerable size, in children born of goitrous mothers, and it is of course well known that frequently several children of one family, in which one or both parents are goitrous, subsequently develop goiter, though this would hardly seem sufficient to place heredity in the lead as an etiologic factor, though it cannot be disproved.

The intimate relation existing between the thyroid gland and the sex organs is

well known. This is shown most markedly first at puberty in the development of the simple goiter or thyrocele. This development is rarely excessive, and usually subsides without treatment unless there be an encapsulated growth which becomes active from the increased circulation (7). An enlargement of the thyroid is also common at pregnancy, and is looked upon by some as a favorable sign, in that it is supposed that the pregnant woman with an enlarged thyroid, that is one enlarging with pregnancy, is less likely to have albuminuria and uraemia. Enlargement of the thyroid is also sometimes seen in association with uterine tumors, and the history of an increase in size at the time of menstruation can be elicited from nearly every patient with goiter; this increase being, of course, purely circulatory.

The weight of recent evidence seems to point to water supply as the causative factor in the production of goiter, and to prove this, Bircher (8) recently undertook some interesting and apparently conclusive experiments. In the time allotted for this paper it is impossible to give these experiments in detail, but a brief statement regarding them will, I think, be of interest. Bircher and his associates tried to produce goiter experimentally in answer to the following questions: First, Is it possible to produce goiter or hypertrophy of the thyroid gland in animals? Second, What is the agent contained in the drinking water which produces goiter?

The requirements for their experiments were that non-goitrous animals from non-goitrous districts should be fed on goitrous water, and that only animals from non-goitrous districts should be used. These requirements were met in the following manner: Monkeys were obtained from Africa, a non-goitrous district. Dogs were obtained from Basel, a region comparatively free from goiter. White rats were obtained from Northern Germany, and previously fed exclusively on milk.

The water used came from Rueppers-will, a county which before 1883 showed 59% of goiters. In 1884 the water supply was changed and the percentage dropped to 10% in 1895 and to 2.5% in 1907. The water used was obtained from one of the old water works, and was used raw, boiled and filtered. The various animals were fed on both goitrous and non-goitrous waters, raw, boiled and filtered, and the residue of filtered water for periods varying from six weeks to seven or eight months, when they were either killed or a partial thyroidectomy done and the thyroids subjected to examination. Practically all of the animals showed positive results.

The conclusions Bircher draws are as follows: He says, "Through our experiments we have proven conclusively that it is possible to produce a hypertrophy of the thyroid gland, and in many instances a typical goiter through feeding animals on water of goitrous character. No doubt our experiments were unsuccessful in some instances, but it is a well-known fact that other things, such as personal predisposition, heredity, amount of water taken, etc., play an inportant role in the etiology of this as of any other disease. From the experiments on monkeys it has been shown that by boiling the water the goiter producing agent is destroyed. Animals fed on the residue of water previously filtered never become goitrous, a point which proves that the existing agent contained in the water is not an organism but a toxin contained in the water, as previously suggested by Wilms. The histological findings go also to prove this fact, as no such thing is known in pathology as an organism always affecting one and the same gland. It is much more plausible that a gland is affected by certain toxins

which produce its hypertrophy analogous to the enlarged spleen in typhoid fever. Practically it is of importance, because it shows that only by boiling the water can the toxin be destroyed, while filtration is of no value."

Of interest in connection with the subject of water as the goiter producing agent, is the result of a recent investigation made in Switzerland at Lauterbrunnen (9). Of two springs in close proximity to one another, it was found that all the members of families using the water from one spring had goiter, while families using water from the other spring were entirely free from goiter.

DIAGNOSIS

The diagnosis of goiter is not difficult unless it be of the aberrant type. The position of the enlargement, its up-and-down movement during deep inspiration and deglutition, due to its intimate attachment to the trachea and esophagus, are quite characteristic. Percussion is of value in determining whether or not any portion of the goiter is intra-thoracic (10). Differentiation between goiter and a branchial cyst may present some difficulty. The latter is more uniform, there is usually distinct fluctuation, and the normal thyroid gland can usually be felt below the cyst (11).

TREATMENT

It is a well-recognized fact that a majority of goiters are non-surgical, and hence belong to the field of internal medicine.

On the other hand, it is as fallacious to say that all goiters should first be subjected to medical treatment as it would be to say that a cyst or an adenoma of the breast should first receive medical treatment, for it is equally well recognized that certain types are either essentially surgical from inception or have become so either from degenerative changes or from the symptoms resulting from their presence, such as increasing stenosis of the trachea, increasing impairment of cardiac and respiratory function, hemorrhage into the growth, malignant degeneration, tracheal collapse and hyperthyroidism. In general it may be said that the following conditions govern the indications for the surgical treatment of goiter.

1. Inability to give relief by non-surgical measures (12).

2. Goiters producing marked pressure symptoms (13).

3. Goiters undergoing degeneration, such as the hard, nodular colloids.

4. Fibrous, calcareous, cystic and adenomatous goiters.

5. Diffuse colloids that have resisted several periods of iodine medication, especially if giving rise to functional disturbance (14).

6. Goiters that are abnormally situated, such as intra-thoracic goiters, particularly if increasing in size (15).

7. Goiters developing suddenly, with rapid growth, regardless of the age of the patient (16).

8. Goiters that have remained stationary for years and then taken on sudden and progressive growth; a condition suggestive of malignancy, which according to Arnd (17) occurs in from 1 1-2% to 2% of goiters.

9. Exophthalmic goiters.

10. Goiters producing unsightly deformity.

In the treatment of goiters by the injection of carbolic acid, as suggested and practiced by the late Prof. Moses Gunn, and as still advocated by Ochsner (18) in certain types of goiter, I have had no experience. Injections of iodine, alcohol, zinc chloride, iodoform, glycerine and ergot have also been used. Ballin (19) cites seventeen collected cases of death

following the injection treatment, and a number of cases of severe dyspnea, thyroiditis, and abscess with this method. It seems to me to be a method to be condemned as unsafe, uncertain and unsurgical.

ANESTHESIA

With the majority of operators in this country ether is the anesthetic of choice, with or without the use of morphine and atropine previous to the administration of the anesthetic, as is the custom at the Mayo Clinic. Accidents from anesthesia have, however, not been uncommon during operations upon the thyroid gland (20).

The reasons for this are both obvious and important. Many goitrous patients are dyspnœic from pressure, and have been so for years before coming to operation, some being unable to recline while sleeping, others fearing to lie down lest it bring on sudden asphyxia. In other patients, particularly those with advanced exophthalmic goiter, the heart has already suffered from the toxemia of hyperthyroidism, and is in no condition to stand the added toxicity of the anesthetic. Landstroem considers general anesthesia the greatest danger in goiter operations (21). In a large number of goiter operations recently witnessed by the writer in the clinics of Prof. Kocher, Arnd and Tavel, of Berne, and Prof. Sauerbruch, of Zurich, local anesthesia was uniformly used except in young children. The solution used was 1-2% solution of novocain or 1-2% of alypin, both in combination with adrenalin.

The advantages of local over general anesthesia are, to my mind, both obvious and important. There is decidedly less shock than when operating under general anesthesia. Post-operative vomiting is lessened or done away with entirely. There is less hemorrhage. There is no mucous accumulation from ether irritation, and that arising from tracheal irritation due to manipulation is easily cared for by the conscious patient. The patient is able to speak during the manipulations and application of clamps and ligatures in the region of the recurrent laryngeal nerve, thereby precluding the possibility of injury to this important structure. Actual pain is slight.

The objection to local anesthesia, offered by some, that the disturbing effect upon the conscious patient of the preparations incident to operation is deleterious, I believe obtains in but few cases, for as a rule it is the anesthetic and not the operation *per se* that the patient dreads.

COMPLICATIONS

The complications likely to arise during or following thyroidectomy are:

1. Tracheal injury.
2. Tracheal collapse.
3. Hemorrhage.
4. Injury to esophagus.
5. Adhesions.
6. Shock.
7. Injury to recurrent laryngeal nerve.
8. Injury to the parathyroids.
9. Cachexia strumipriva.
10. Post-operative pneumonia.
11. Infections.

Tracheal injury may be accidentally inflicted by tearing or cutting the trachea, either of which can usually be avoided with care. In case of such an accident, the wound should be immediately closed by suture. The only untoward result likely to occur is wound infection. Tracheal collapse is a much more serious complication, and one frequently resulting in death during or following operation. The collapse is a result of the erosion or softening of the tracheal rings from pressure, or in cases of malignant goiter to an invasion of the tracheal wall by disease. This collapse may come on during oper-

ation as soon as the attachment of the gland to the trachea is released, or may occur some time after operation. C. H Mayo reports three cases of tracheal collapse during operation, and one fatal case occurring three days after operation. Dr. C. G. Darling, in a personal communication, cites a case of tracheal collapse ten days after operation for recurrent malignant disease of the thyroid gland, the patient dying before a tracheotomy could be performed. The treatment of this condition is immediate tracheotomy. I make it a point to have among my thyroidectomy instruments two sharp tenaculae, by which the trachea can be supported in case of collapse.

Scrupulous care should be exercised to clamp and tie every bleeding point, no matter how minute. Temporary forceps pressure is not to be relied upon in surgery of the neck, and many deaths following thyroid operations have resulted from hemorrhage (22). Many of the vessels are dilated to several times their natural size, and bleed furiously when cut or torn. Much blood can be conserved by clamping and tying vessels as they come into view, before cutting them. In some cases a general free oozing may necessitate the use of a gauze tampon for a few hours, which may be removed gradually, beginning the first or second day following operation.

Kocher claims a certain degree of toxicity of the blood itself as another reason for the thorough control of hemorrhage. Hemorrhage also increases shock from the actual loss of blood, by serving to prolong operation, and by increasing the necessity for manipulation and trauma.

Injury to the esophagus is rare, and should be met by immediate suture.

Injury to the recurrent laryngeal nerve may occur either from cutting the nerve, from clamping or ligation, or its function may be temporarily inhibited by trauma, and, according to Mayo, a vocal cord in slight paresis before operation may become completely paralyzed following the trauma of operation. This is usually transitory, though some time may elapse before restoration of function occurs. In general it may be said that injury to the recurrent laryngeal can best be avoided by careful preservation of the posterior capsule, by care in applying clamps and ligatures about the lower pole of the gland, being sure that only the vessel is included in the ligature or clamp, and by gentleness in manipulation. It is here that local anesthesia possesses one of its great advantages, for with the patient able to speak during operation, injury to the recurrent is reduced to a minimum.

Adhesions may prove troublesome in those cases previously treated by injection, the X-rays, irritating external applications, or where there has been a pre-existing thyroiditis.

Shock can best be reduced to a minimum by the conservation of blood, reasonable skill in operating, appropriate preliminary treatment, and selection of a suitable time for operating, particularly in exophthalmic goiter, and by avoiding all unnecessary traumatism.

Injury to the parathyroids is rare if the posterior capsule is preserved, and if one or even two were injured or removed, there is little likelihood of tetany, providing that the parathyroids of the opposite side are healthy and functionating. Should tetany develop, it is best treated, so far as our present knowledge goes, by the administration of calcium lactate, given either by mouth, by rectum, or intravenously.

Cachexia strumipriva, or surgical myxedema, is now relatively rare, since experience in operating has demonstrated the necessity of allowing a functionating por-

tion of the gland to remain. If, on account of the removal of too much gland or a lack of sufficient secretion of the remaining portion, cachexia strumipriva develops, the feeding of thyroids should be instituted. Transplantation of healthy thyroid gland has been done with a certain degree of success, though the results are not constant, and in some apparently successful cases the results have not been permanent, in that temporary improvement has been followed by relapse and investigation has shown a complete absorption of the transplanted thyroid tissue. Nevertheless, transplantation should be tried with the hope of permanent cure.

Post-operative pneumonia is no more common than after other major operations, and is reduced to a minimum by the avoidance of general anesthesia.

It is hardly necessary to state that the operation should be carried out with a rigid attention to asepsis.

As to the operative treatment of exophthalmic goiter or Basedow's Disease, Kocher says, (23), "To say this is still the best is not enough. It has proved itself superior to any other form of treatment. It attacks the organ which is instrumental in producing the thyrotoxicosis, namely the thyroid gland," thereby checking its secretion, and in so doing meeting the one indication for the cure of this condition.

In the surgical treatment of exophthalmic goiter a choice must be made between two methods: ligation, as suggested by Woeffler in 1886, and excision; the decision as to which method shall be employed depending upon the stage of the disease and the condition of the patient. In general it may be said that in the early stages of the disease many cures can be effected by ligation alone; also that the so-called intermediate cases should have the more radical operation of thyroidectomy, and again, in the advanced cases, a preliminary ligation should be done, to be followed in from four to six months by extirpation of a portion of the gland.

Before operating any of these cases, a few days' rest in bed is desirable, and the time for operating should be carefully selected with the view of avoiding any operative procedure during one of the crises to which these patients are subject, as evidenced by an exacerbation of all symptoms, as increased tachycardia, extreme nervousness, vomiting and intestinal relaxation.

The result of ligation in the advanced cases is sometimes truly remarkable. There is an amelioration of symptoms, sometimes within a few hours. The pulse drops to below 100° in two or three days, sweating ceases, tremor improves, and there is a rapid and marked gain in weight, not infrequently a gain of from 20 to 30 pounds in a few weeks.

It has recently been advised by Arnd and others that in performing the operation of ligation the upper pole of the gland be included in the ligature, for the purpose of including fibres of the sympathetic as well as the vessels in the ligature, on the grounds that hypersecretion is not dependent upon vascularity alone but upon increased vascularity and over-activity of the sympathetic. The grounds upon which this theory are based are, that were hypersecretion and consequent toxemia dependent upon increased vascularity alone, there would be no improvement in those cases which are sometimes improved, temporarily at least, by the rest cure.

PROGNOSIS

In the earlier work of surgery of the thyroid gland the mortality was high, ranging probably from 25% to 40%, but has been steadily decreasing, so that at the present time the mortality of experienced operators is no greater than that of other

major surgical procedures. This is due, no doubt, to improved operative technique, as developed with a closer familiarity with the work, to the selection of a suitable time for operation, a feature of the greatest importance in cases of hyperthyroidism, and the fact that patients are referred earlier to the surgeon before the operation becomes a dernier resort, as was formerly so frequently the case.

Kocher's present mortality in goiters of the simple type, i. e., cysts, colloids, adenomata, etc., is one-third of one per cent, (24), and about 3.5% in exophthalmic goiter. The latest available statistics in this country are from St. Mary's Hospital, Rochester, Minn., (25), citing 358 cases of thyroidectomy for the ordinary types of goiter during the year 1910, with one death, and 191 operations for exophthalmic goiter, of which there were 160 cured, 24 improved, and 7 deaths.

The prognosis in exophthalmic goiter is, as indicated above, less favorable than in other forms, on account of the serious inroads which the toxemia of the disease has made upon the patient's vital organs, in the way of degenerative changes in the heart-muscle, liver and kidneys.

The cause of death following goiter operations has been tabulated by Reverdin in 93 cases as follows: suffocation and pneumonia caused 43 deaths, hemorrhage, 19, infection, 12, shock and nerve injury, 9, cardiac failure, 6, tetany and myxedema, 4.

C. H. Mayo, (26), says, "After all has been said concerning the various dangers from operating for ordinary goiter, we consider hemorrhage, either primary or delayed, with the efforts made to control this usually accidental condition, as the primary cause of death."

The cause of death following operation for exophthalmic goiter is frequently an acute hyperthyroidism, due to an overwhelming dose of gland secretion poured out as a result of manipulation of the gland during operation. Death from this cause usually ensues within the first forty-eight hours following operation, the patient presenting the symptoms of a most exaggerated thyroid toxemia.

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REPAIR OF PERINEUM*

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Much has been said and various operations devised, all of which have certain merit, but unfortunately a very large proportion fail to accomplish the desired results. It is generally understood, however, that in order to accomplish the best results, the operator must not only understand the general structure of the pelvic floor but strive to utilize the tissues which nature has provided for this purpose.

ANATOMY

Let us forget all structures but the muscles and fascia. The principal muscle is not sphincter vaginae, but the levator ani and transversus perineii, and these we must use if we would accomplish the desired result.

THE LEVATOR ANI

as we know, receives its origin, speaking briefly, from almost the whole circumference of the true pelvis, and its fibres converge to the median line, blending with the constrictor muscles of the vagina, and still further back with its fellow of opposite side between the vagina and rectum at the median line raphe, and also its posterior fibres to rectum and coccyx and is also blended with and reinforced by the transversus perineii muscles and superficial and deep fasciae.

From this anatomic arrangement, we may readily see the importance of not only reuniting the severed fibres, but our efforts should also aim to shorten the relaxed fibres in order to raise the whole pelvic floor to where it belongs.

When we consider the intimate blending of all the structures in the median line, we must conclude that it is not necessary to isolate each structure, but simply seek out the blended mass of various structures and bring them to position, and this is accomplished in the following manner.

PREPARATION

Iodine douches and castor oil ℥ij the night before, together with shaving parts and thorough scrubbing with soap and water, and an antiseptic pad applied. Morning of operation, iodine douche. On table, vagina is thoroughly mopped out with soap and water, followed by alcohol and next sterile water.

STEPS OF OPERATION

The parts are spread with the fingers, and the incision is made beginning at the lower angle to a little above the scar on either side. I might say that the incision is not made at the junction of skin and mucous membrane, but rather directly above the inner surface of the sphincter muscle. The mucosa, together with the loose connective tissue, is dissected back as far as indicated. A pair of forceps is now applied to the apex of the dissected mucosa, and this is pushed well up into the vagina and held there by an assistant. Next dip down well; just internal to the sphincter on either eide, separate all useless tissue from the muscle, and by repeatedly spread-

*Read at the 19th annual meeting of the Upper Peninsula Medical Society, Escanaba, July 27, 1911.

ing a hemostat or scissors, the conjoined fibres, after forcibly retracting the constrictor muscle, the rolled margins of the levator muscles, together with the other structures which form the floor, will come into view. To determine whether you have the proper tissue, grasp it and pull forward, and the noticeable effect on the rectum will be observed. A curved needle armed with chromic gut or silkworm (I prefer silkworm) is inserted at the lower exposed portion of the levator exposed muscle from without inward, being careful to grasp plenty of the muscle; then it is carried across the floor of the wound, and the muscle of the levator on opposite side is similarly caught with the same suture, only that the needle enters from within outward. After this the needle is brought over and through constrictor or rather lower angle of wound about one-fourth inch from the median line or lower angle, emerging just inside the cut edge of the mucosa. The needle is again threaded on the other end of the ligature and brought through the constrictor one-fourth inch on the other side. The next stitch is passed in similar manner, but one-fourth or more inches from the first. Let me note that neither of these stitches are carried into the connective tissue in the median line but only the muscles mentioned.

The third suture passes through the same muscles, and also as it crosses over grasps the tissues at the upper angle of the dissection in front of the rectum.

The fourth suture takes a similar course, and the fifth through the muscles before mentioned, and following the margin of the deflected vaginal mucosa. Each is now tied, being sure that the levator fibres are well approximated in the median line before tying.

This method of dealing with the dissected mucosa is very simple, and forms the normal floor as well as re-establishes what appears like a normal hymen.

Notice there is no suture subjected to vaginal secretions, and all sutures are on the outside.

After operation, no vaginal douches are given, but an occasional external douche may be given over the sutures line, but this is really but seldom necessary. I usually catheterize the patient for two or three days.

This method of placing the sutures is not original with me, but that of Dr. W. J. Mayo. Dr. Mayo says that his results have been very satisfactory, and I have been more than pleased with the results I have obtained. However, I do not maintain that the technique of placing the stitch has all to do with the results, but rather would say that any operation which would rely upon the muscular structures only may give equally good results. This operation has certain advantages over others that I have used, in that it is very quickly done, it leaves no dissected or denuded wounds exposed to vaginal secretions for inflection. It tightens the levator ani not only from side to side but from before backward. It establishes a very heavy muscular floor, not only relieving rectocele but also supporting largely vesicocele.

THE SURGEON'S GREATEST APPREHENSIONS*

ANGUS McLEAN, M. D.
Detroit, Mich.

There has been no time in the history of surgery when this art has not been accompanied by greater or lesser dangers, and it has been these dangers that have caused the surgeon to proceed with great apprehension as to what the primary or secondary results of his work might be. Before Ambrose Pare successfully ligated blood vessels, or Dr. Morton discovered the general use of ether, and Lister brought forth the principles of antiseptics, the surgeon's work was largely reparative, such as setting fractured bones, amputating fingers and legs, reducing hernias, replacing dislocations, etc. The surgeon of that period hesitated to make a wound of any size. So great was his fear of shock, hemorrhage, sepsis, or gangrene, that the opening of a serous cavity was considered a fatal procedure. After the antiseptic period in surgery, operators grew bold and hopeful and undertook operations that until this period had been unheard of.

The surgeon of the early antiseptic period had still many apprehensions. They had anesthetics, but the administration was not properly understood and they had occasional deaths. They had antiseptics, but they applied them to the air and wounds too freely, while the operator's hands and other utensils were forgotten. As a result, many failures followed. They had ligatures, but these were unabsorbable and frequently not sterile, and produced early infection of the wounds, and frequently left discharging sinuses with a long convalescence. The heavy ligatures were applied to pedicles en-masse, and thus dropped back into the cavities. The tissues of these pedicles would retract, the ligatures roll off, and a secondary hemorrhage would follow. Their patients often suffered frequently from the shock of a long operation.

Each decade has mastered one or more of these dangers. At present the principles of asepsis have become so thoroughly understood and so well applied that the dangers of sepsis and infection are now reduced to a minimum.

The modern surgeon that wishes to do all that can be done for his patients is, however, still confronted with many serious problems. Not only does he need to meet the conditions as they exist when correcting abnormal physiology and anatomy, but he must endeavor, as far as possible, to prevent new pathological conditions from arising. In a word, he must practise preventive as well as curative surgery.

The last five years have seen a marked improvement in the technique of surgery. Newer laboratory methods, blood counts and newer instruments of precision, such as the cystoscope, oesophascope and the refinements in radiographic diagnoses, have all aided very materially to this end. If we wish to accomplish the very best results, it behooves us to call to our aid these and anything else which will improve our surgery, and make it both scientific and artistic. These advances have been a

*Read before the Wayne County Medical Society, Detroit, Mich., May 8, 1911.

great aid to diagnosis and a great factor in allaying the anxieties and fears of the surgeon.

In spite of these improvements there are, however, certain complications, accidents if you will, for which the surgeon of to-day must be continually on the alert. It is true these are rare, especially rare when compared to the frequent post-operative cases of peritonitis, shock and hemorrhage, and the many cases of retarded convalescence from wound infection of former days.

In order to give a clear idea of the complications which are considered the greatest dangers in our surgery of the present day, I will give a resume of a series of cases comprising my surgical work during the past three years, i. e., 1908, 1909 and 1910.

In this series there were 2036 cases operated upon. (When more than one operation was done on the same patient the extra operation was not counted; each patient is considered a separate case.) The results and misfortunes of this work will indicate the danger points with which the surgeon of the present day has to contend.

In this series we have had 68 deaths, a mortality of 3.3%. Of the patients that died, 23 were moribund on admission into the hospital or when first seen, either from intestinal obstruction, ruptured appendix, gall bladder, or bowel, and died within twenty-four or forty-eight hours. Nine died of exhaustion following operations for malignant diseases which were only palliative; seven died of shock following injury or burns; three of puerperal septicemia; one of typhoid fever following a hysterectomy, and one of an infection by the bacillus aerogeneus capsulatus. These deaths, forty-four in all, can hardly be attributed to surgery, for in each case death was not due to surgery, but rather to the lack of surgery at the proper time or to the overwhelming injury, such as fractured skull, fractured pelvis, etc. The remaining twenty-four deaths, we must admit, were to a greater or less degree directly due to surgical interference. Of these twenty-four, five died of peritonitis, four of embolism, two of cardiac thrombosis, six of post-operative ileus, one of cerebral hemorrhage following a resection of the Gasserian ganglion, one of inanition following a resection of about 2 1-2 feet of bowel, one of uremia on the sixth day, one of chronic pancreatitis, one of tetanus following a vaginal hysterectomy, and two of hypothyroidism. The death rate therefore directly due to surgical interference is twenty-four, or a mortality of 1.1%.

ANESTHESIA

In the anesthetization of over 2000 patients, ether, by the drop method, was used in 94%, chloroform in 2%, and nitrous oxide gas and oxygen in 4% of the cases. There was no trouble from the anesthetic in any case, and no death from the primary administration. This would indicate the safety of ether given by the drop method; for in over 1900 administrations there was no primary trouble. The ether was not always given by experienced hands; many times it was given by externes who had never given it before, and by physicians throughout the state, some of whom did not give an anesthetic once a year and probably had never given ether before. One boy, who was given gas, had a convulsion as he was coming out from under the influence, but he had had epileptic seizures previously. Another case, a boy of fifteen, operated upon for undescended testes, had a complete suppression of urine and died of uremia on the sixth day. This

death must be attributed to a late effect of ether narcosis.

ANTISEPTICS

The principles of strict asepsis and cleanliness were carried out in all these cases, and few antiseptics were used. In the wounds and cavities no antiseptics were used at all. Here, saline or sterile water were the solutions of choice, and scarcely any infection followed.

LIGATURES

Absorbable catgut was used almost entirely. The only silk used was in operations upon the stomach and intestines for the approximation of the serous coats.

All pedicles were transfixed. In the series there was not a single case of secondary hemorrhage.

In the general surgical work of three years there must of necessity be a certain percentage of cases in which we would not expect a single death. Such cases would include fatty tumors, simple fractures, vaginal repairs, etc. On the other hand, there are a certain percentage of cases in which, from the gravity of the operation necessary and from the very nature of the case, plus the accompanying condition of the patient, a certain mortality is inevitable. In this category we would include all abdominal operations, goiter operations, prostatectomies, operations on the skull and brain, etc.

Classification in a general resume of this kind is practically out of the question. We will, therefore, content ourselves with a simple enumeration of the principal conditions we meet in daily practice.

OPERATIONS UPON THE THYROID GLAND

Here we have to deal with the simple or cystic enlargements and neoplasms, with no symptoms except those that are mechanical, and the parenchymatous enlargement with its train of symptoms from simple nervous irritability to the most pronounced nervous exhaustion with delirium. The former condition is merely mechanical, and unless there is a marked pressure on the trachea causing an obstruction to breathing, the operation is comparatively safe. In this series of 35 cases of cysts and benign growths of the thyroid, 4 caused a considerable degree of pressure on the trachea. The tracheal rings were distorted, and during operation, alarming cyanosis was present several times. There were, however, no complications to interrupt convalescence.

The latter, the exophthalmic type, requires more deliberation. Even here the operation is safe provided it is done early. If, however, we wait until the nervous symptoms have become exaggerated, the heart rapid, and marked degenerative and terminal changes have become established, the operation assumes a different aspect. In these cases of advanced hypothyroidism, a thyroidectomy, or a partial thyroidectomy, is always a very dangerous procedure. This we learned in two of the early cases of this series in which we removed part of the gland. At the time of the operation both of these patients had very alarming symptoms of hypothyroidism, and both patients died. These are the only deaths we have had after any operation on the thyroid, and had we known then what we know now, we would have performed a temporary ligation of the superior or the superior and one of the inferior thyroid arteries before attempting the removal of the gland. In all there were 27 cases of exophthalmic goiter.

OPERATIONS ON THE STOMACH AND INTESTINES

In this series there were 34 stomach cases. In 33 a gastro-enterostomy was performed, and in one a gastrostomy. One case of gastro-enterostomy died on

the 9th day after operation, of an intractable diarrhea. Post-mortem showed that the approximation between the stomach and jejunum healed perfectly, and just what caused this diarrhea could not be ascertained. The gastro-enterostomy performed in all these cases with one exception was the posterior no loop operation, and direct sutures were used in each case. The exception was an anterior gastro-enterostomy. The cases presented no shock at any time after operation. In only 4 cases was vomiting present, and this subsided promptly upon gastric lavage.

The operations were performed for ulcer of the stomach and duodenum, which had not been benefited by medical treatment, many of which were accompanied by obstruction at the pylorus; for carcinomata which had progressed too far for radical excision, and in one case for an alarming hemorrhage incident upon an ulcer of the stomach.

There were 5 cases of resection of the intestine for malignant conditions, and all made good recoveries. The direct suture was used in all cases. Where an anastamosis between small intestines or between two portions of large intestines was necessary, the ends were closed and a lateral anastomosis performed. In two cases an entire resection of the cæcum was necessary, and in three from 8 to 10 inches of intestine were resected. In one case, a simple closure of an ulcer of the duodenum was performed.

OPERATIONS ON THE BILIARY TRACT

In the surgery of the biliary tract we have cholelithiasis, cholecystitis and pancreatitis to deal with. In diagnosing either of these conditions, too much attention should not be paid to jaundice. A history of jaundice was present in only 40% of the cases. Its presence certainly is of diagnostic value, but its absence only means that the common or hepatic duct is not or has not been obstructed. In eighty-five operations on the gall bladder and ducts without the presence of the complication acute pancreatitis, our mortality has been nil. One case with an immensely distended gall bladder full of stones and pus, plus an acutely inflamed pancreas, died in ten hours. Many cases complicated by chronic pancreatitis, as evident by a marked hypertrophy of that organ, have, in spite of the pancreatic involvement, made a remarkable recovery.

OPERATIONS ON THE APPENDIX

The appendix is the cause of much of the pathology of the lower abdomen. Diseases of this organ have long since been recognized as surgical, yet in spite of this our experience has taught us that there are conditions, especially such as arise from the third to the fifth day of the attack, where an operation on the appendix is not advisable. Here special contra-indications exist, and the operation had in a few cases better be deferred to some future date.

The cases operated upon within the first twenty-four or forty-eight hours have the best chance of recovery, and therefore it behooves us in each case to advise early operations. In this series there were 265 cases of so-called early operations, cases in which drainage was not employed, and here our mortality was nil. On the other hand, there were 131 suppurative cases of appendicitis, with local or general peritonitis, and 16 deaths. A mortality of 12 9-10%.

In cases with either a local or general peritonitis, we remove the appendix if possible, but do not believe in breaking up adhesions or in instituting a prolonged search for the organ. If it does not

readily present itself, we content ourselves with simple drainage.

The anesthetic we use in very severe cases is nitrous oxide gas and oxygen. The after-treatment consists in elevation of the head of the bed and the routine treatment for peritonitis. By this method we believe that we can materially lower the mortality of suppurative cases of appendicitis. It is true that the appendix often remains, but we feel that we would rather have a living patient with a dead appendix than a dead patient without one.

PELVIC OPERATIONS

In this series there were 92 hysterectomies, of which 68 were abdominal and 24 vaginal; 6 patients died, 2 of ileus, 2 of emboli, 1 of peritonitis and 1, a vaginal hysterectomy, of tetanus.

Of the deaths of ileus and embolus we shall speak later. The death from peritonitis happened in a patient that had been curretted outside the hospital, about five days before operation, and this curettment may in some degree have been responsible for the peritoneal inflammation.

In the death from tetanus, the infection could hardly have gained entrance at the time of the operation. The symptoms of this disease appeared on the third day following the operation, an incubation period too short for this particular infection. The infection in this case probably gained entrance through a wound on the hand received about a week before entering the hospital, evidence of which was still present at the time the tetanic symptoms appeared.

Of the other pelvic operations, such as supensions, ovariotomies and oophorectomies, the immediate operative results except in 2 cases have always been good. In this class there were 295 of these various operations. The appendix was simultaneously removed 110 times. The two cases referred to died from ileus, and in each of these the operation performed was the removal of adherent cysts of the broad ligament.

HERNIA OPERATIONS

There were 127 herniotomies. The operation performed was usually some modification of the Furgeson operation, and as far as we have been able to learn, there has not been a single recurrence.

OPERATIONS UPON THE PROSTATE AND BLADDER

These operations are as a rule performed upon patients who have been suffering for months and years with cystitis. Many of these patients have sacculated bladders, and in some the walls of the bladder are immensely hypertrophied and the capacity of the bladder much diminished. In another class we have to deal with dilated bladders and an accompanying kidney infection. In some of these conditions if a prostatectomy is contemplated, we have found it best to perform a cystotomy with a drainage, leaving the removal of the prostate for a later date. In this class there were 23 cystotomies for removal of stone and drainage of the bladder and 51 operations for removal of the prostate. There were no deaths following the cystotomies, and two deaths following the prostatectomies. One of these occurred on the eighth day, from pulmonary embolism, while the man was sitting up, and the other on the fourteenth day, from pyelitis and nephritis. This patient was among the youngest operated on for this trouble; it was thought a previous drainage of the bladder was not necessary, although he had retention of the urine for some months. This, however, proved to be an error, and I think if this had been done the kidney trouble could have been prevented.

OPERATIONS ON THE SKULL AND BRAIN

There were 10 cases of trephination and cranial decompression. These cases with one exception progressed favorably. This one exception was a case of abscess of the brain. Here we attempted drainage of the abscess, but in spite of anything we could do the patient succumbed to the toxemia.

From this short resume of these series of cases it can readily be seen that the greatest number of surgical accidents must be attributed to ileus, thrombus and embolus. From the former cause we have had six deaths; from the latter also six.

Ileus when fatal is confined to the small intestines. It is a paralytic condition of this part of the bowel.

The cause of ileus has been attributed to infection, to reflex conditions from nerve injury, to injury of the mesentery, to excessive handling of the intestine, etc., but so far no definite cause has been accepted. Some authors claim that prolonged anesthesia is often responsible for the condition, but I have seen at least two marked cases after a very short gas anesthesia.

In our series of 1001 laparotomies we have had 11 cases of ileus, or 1.09%, and six deaths from this cause, a percentage of .59. In four of these cases that died a peritonitis was present before operation. Of the six cases that died, three were not given the benefits of an enterostomy. These were early cases. The remaining three that died had an enterostomy performed, but we think too late in the disease to be of any benefit.

There were five cases of ileus that recovered after an enterostomy. Of course, with such an operation, convalescence is considerably prolonged, but if we consider that each one of these patients would surely have succumbed to the condition, then an enterostomy, even if it does prolong the convalescence and claims a mortality as high as 33 1-3%, as in ours, is certainly worth while. Here, procrastination means death. Early operation will save more than 66 2-3% of the cases.

While the surgical treatment of ileus is each year lessening the mortality from this cause, surgery has not yet offered anything for embolus. Ileus appears in cases not entirely without a warning, but embolus is always sudden in onset, entirely without a warning, often in the simplest kind of cases, and when convalescence is well under way. Embolus has been attributed to changes in the blood current, especially slowing of the current, to infection, to injury to veins, to blood changes, pressure, forcible retraction, etc.

The mortality due to embolus is given by various writers as from 1%, to 2%. Most of the sudden deaths are caused by embolus in one of the pulmonary arteries.

The operations given as being most frequently accompanied by embolus are operations for varicose veins, operations upon the broad ligaments, prostatectomies and operations upon very anemic patients.

Our cases of embolus and cardiac thrombosus were as follows:

Case 1.—Male, age 54. Sudden death followed a suprapubic prostatectomy on the eighth day after operation. The patient had been making an uneventful recovery, and had been up for three days when death occurred in 15 minutes after the onset of pericordial pain, dyspnea, pallor, sweating and involuntary defection.

Case 2.—Female, age 34. Operation, incision of an appendiceal abscess and drainage. Patient had been upon a head rest for three days. Was eating supper, when suddenly on the eighth day following the operation, she suddenly cried out with a pericordial pain. She collapsed and with profuse sweating died in fifteen minutes.

Case 3.—Patient, male, age 42. Entered hospital 6.30 a. m. Came on street car from train. Diagnosis gangrenous appendicitis. Polymorphonuclear count 96%. Pulse 120.

Temperature 97. Operated under gas anesthesia. Appendix was gangrenous and loose in abdomen. Condition on return from operating room good. Two hours later complained of numbness. He collapsed, his pupils dilated, perspired profusely, became pulseless, and died four hours after operation.

Case 4.—Woman, age 62. Degenerating cyst of broad ligament. Suddenly died on the seventh day, from pulmonary embolism, in a similar manner as did Case 2.

Case 5.—Woman, age 63, abdominal hysterectomy. On second day pulse became feeble and numbered about sixty-eight beats to the minute. No pain. Third day pulse irregular and numbered sixty. She complained of dyspnea. This condition continued for twenty-four hours, when it gradually grew worse, patient became cyanotic, pulseless, and died six hours later. No rise of temperature at any time. Diagnosis, cardiac thrombus.

Case 6.—Woman, age 28. Removal of cystic ovary. This patient was anemic, and gave a history of rheumatism. During operation the patient was placed in the Trendelenburg position. One hour after leaving operating room, pulse almost imperceptible. Diagnosis, secondary hemorrhage. Wound was reopened, but there was no evidence of hemorrhage. Stimulants and salines were administered; no improvement; died six hours later. Post-mortem diagnosis, cardiac thrombus in right side of heart extending into the pulmonary artery.

Besides these six cases of fatal embolus and cardiac thrombus, there were seventeen cases of thrombosis of the veins of the lower extremities and pelvis. From among these, two cases of empyema of the plura developed, which were thought to be due to detached fragments of the thrombus, and one case of hepatic embolus, resulting in an abscess of the liver. This latter was originally an appendicular abscess.

From the above it will be seen that our greatest apprehensions arise after operation and not during the same. The causes for such apprehensions are usually found in the alimentary tract and in the cardio-vascular system. The former makes itself evident in the paralytic, distended condition of the bowel, ileus; the latter, as thrombus or embolus.

For ileus, early gastric lavage and rectal enemata will often improve the condition. If however, improvement does not take place in a limited time, an enterostomy should not be delayed.

For thrombus and embolus, surgery and medicine, at the present day at least, have nothing definite to offer.

CONCLUSIONS

1. Thrombi and emboli seldom follow operations in the upper abdomen.

2. Thrombi and emboli are most apt to occur after operations in which the veins of the broad ligament and deep pelvis are disturbed.

3. Emboli following operations for appendicitis always occur after the suppurative form.

4. Ileus rarely occurs after operations in the upper abdomen.

5. Pelvic operations and operations for suppurative appendicitis are the ones usually followed by ileus.

6. In general, operations in the upper part of the abdomen are followed by fewer unpleasant and dangerous sequellae than are those in the lower part of this cavity, and should therefore be considered the safer.

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OCTOBER

EDITORIAL

THE UPPER PENINSULA MEDICAL SOCIETY

THE history of the Upper Peninsula of Michigan reads like a romance. Long after Michigan was well settled it was an unknown and an unthinkable region, and it was with much regret that the bloodless "Toledo War" compelled Michigan to take it by arbitration. Being young, it is not surprising that there are men still living who were among the pioneers. And the physician was there also.

The early Jesuit explorers spread the information that on the south shore of Lake Superior were great masses of native copper lying on the ground. After many years that information drew adventurous miners to the field. Consequently the settlements were only around a mine or a lake harbor, and as these were few and far between, our doctors had few opportunities for social intercourse. Nevertheless we find records of medical societies which were born, flourished for a short time, and died.

So we may truly say that the medical history of the Upper Peninsula begins with the time in 1892 when Dr. Samuel Bell, then superintendent of the Northern Michigan Hospital for the Insane, and Dr. Beverly D. Harison, our present Secretary of the State Board of Registration in Medicine, and other progressive men called a meeting to be held at Marquette. That meeting was called at the psychological moment; the attendance was representative, the papers good, the enthusiasm great. Our revered teacher of yore, Prof. E. W. Jenks, of Detroit, was the guest of honor.

The organization was perfected and still endures, though it has passed through its times of travail. It was christened "The Upper Peninsula Medical Society," and it still retains that name, though, following the plan of State reorganization, it might have become "The Twelfth District Medical Society." Why is it not so called? Well, old ties are strong, old associations are dear, and the rose by any other name does not smell as sweet, and so sentiment won the day and no one desires otherwise. Long may she wave!

It is impossible to appreciate the good which this Society has accomplished for the profession in the Upper Peninsula. It was formed at a time when it was sorely needed, and, best of all, it prepared the way for the organization of medical men into county societies.

The councilor of the Twelfth District during the time of reorganization recalls as one of the pleasantest episodes of his life his reception by the medical men of the different counties. It certainly was an unusual experience, and the rapidity with which the entire District was organized was a marvel to the Board. To your councilor the reception of his mes-

sage seemed in the nature of an ovation, so prepared and eager were they to receive it. No fault-finding with the written Constitution! no bickerings over the By-laws! And so it came to pass that in many counties every eligible man became a member.

The Upper Peninsula Medical Society is proud of the fact that it originated the idea and perfected the plans for the monument to Dr. William Beaumont which now stands within the fort on Mackinac Island. The expense would have been heavy for the one society, and so, at a joint meeting with the State Society on the Island, the only time, by the way, that they ever met in the Upper Peninsula, they approved the plans and divided the honors and the financial burden. It is worthy of mention that at this meeting an address was given by our present Governor, Chase S. Osborn, and relatives of Dr. Beaumont were guests of the societies.

An invitation is always open to all the profession of the State to be present at the annual meeting, and it goes without saying that one who attends never fails to note the atmosphere of professional manliness and social comaradie which abounds. The medical men of the Upper Peninsula certainly are royal entertainers.

T. A. FELCH.

MEMBERSHIP

THE following table gives the paid-up membership of the Michigan State Medical Society for the year and on the date indicated, showing the growth since the reorganization. The number of members for the three years just preceding the reorganization are given for comparison.

Year	Date	No. Members
1900	Close of Annual Meeting	578
1901	Close of Annual Meeting	595
1902	Close of Annual Meeting	684

(Reorganization at annual meeting 1902)

Year	Date	Number Members	Date	Number Members
1902			Dec. 1,	1174
1903			Dec. 31,	1653
1904			Dec. 31,	1777
1905	Sept. 1,	1728	Dec. 31,	1790
1906	Sept. 1,	1731	Dec. 31,	1873
1907	Sept. 1,	1677	Dec. 31,	1892
1908	Sept. 1,	1685	Dec. 31,	1883
1909	Sept. 1,	1697	Dec. 31,	2021
1910	Sept. 1,	1604	Dec. 31,	1979
1911	Sept. 1,	2076	Sept. 23,	2093

The last Directory of the American Medical Association gives 4,109 physicians practicing medicine in Michigan. Let us estimate that of that number ten per cent are irregulars, or are not eligible for membership for one reason or another. That would leave us 3,699 doctors in the State who are potential members. Out of this number we actually have 2,093 paid-up members. This number is much larger than we have ever had, but is not large enough. At the very least, not less than three-quarters of the total number of doctors in the State should be members, 3,000, or about four out of every five in the State who are eligible.

Without doubt many men are not members of the Society because they have never been asked to join. Our membership now is the greatest it has ever been, but there are many more doctors in the State who would come in if given an invitation. Will not each member set a task for himself this coming winter to get a new member into the Society? The task is not so difficult. Simply tell the prospective member of the work of the Society; tell him of the value of the County Society meetings; tell him of the good-fellowship and kindliness engendered at these meetings; tell him of the chances of discussing troublesome problems, and of the valuable aid often obtained at these

discussions. Tell him firstly, lastly, and in between, of the work the State Medical Society is doing for its own members at the present time in the way of defense in cases of civil malpractice.

A systematic effort in this direction by every member would give us a membership of three thousand by the time of the next annual meeting, and would enable the Society to do even more for its members than it is now. On one of the back advertising pages of the Journal will be found an Application for Membership Blank for the convenience of those members who do not happen to have one handy, and who wish to help us get new members. As an aid, and to do his share, the State Secretary will mail a sample copy of the Journal to anyone in the State if some member will request him in writing to do so, stating that the person is a prospective member.

AN EFFICIENT HEALTH OFFICER

HEALTH officers in the larger or smaller cities in the State have almost autocratic power as far as sanitary measures are concerned. Some seem determined to use this power for the benefit of the long suffering and patient public. Health officers are not made out of any practitioner of medicine who happens to receive the appointment. Disposition and training must be especially adapted to the work which falls to their lot.

Recognizing this, the University of Michigan, University of Pennsylvania, and Harvard University have established a two years' course open to graduates in medicine, to train men for this work. The course leads to the Degree of D. P. H., and establishes in this country what has obtained in England for some time. Two or three other medical schools have announced a one year's course leading to the same degree, Doctor of Public Health.

While it would be well if all health officers could be men who have had this special training, it is not necessary. Many in our State have made efficient health officers, only to, in most instances, lose their appointment through political rivalries, and enmities engendered by enforcing the law.

We have drawn attention in these columns before to the new health officer of Bay City, and do so again to point the way to success in the discharge of one's duties, but to almost certain oblivion politically, quoting from the *Detroit Free Press*.

He started in on milk, and has kept at the milk proposition until the State dairy and food department has officially announced that Bay's dairies are the most sanitary in the State. It was a case of clean up, no matter how far out of the jurisdiction of the city officer, or be held up at the city limits.

The surprise came when Dr. Goodwin kept up his fight. Inside of a week he was mixed up in half a dozen lines of endeavor and court cases as well. He called on the State dairy and food department for aid and got it. To-day not a pint of milk is delivered in Bay City that is not delivered ice cold, and to this is ascribed the remarkably low death rate among babies.

His latest step is to enforce the quarantine permitted under the State law against typhoid.

But the energetic little doctor didn't accomplish these things without trouble. His fights are a continued story. The milk dealers' organization openly passed resolutions, and was going to raise the price of milk, but it didn't.

When he ordered hucksters to cover their wagons with fly-proof screens, they organized. He had the leading huckster arrested. The organization hired an attorney, but quit before the case was tried and bought covers. The grocers made protests to the city officials; the aldermen tried to interfere; the slaughterhouse men made formal protestations. Several people refused to move hen-houses. He had one woman arrested, and the hen-houses moved. A slaughter-house and sausage man told what he wasn't going to do, but he has remodeled his plant.

This health officer doesn't know what "policy" means, and has never exhibited the slightest hesitancy to say just what he thinks. He is

cordially disliked by the majority of the political fry, because no one has yet been able to make him grant a favor that meant sanitary laxity.

Dr. Goodwin has been fortunate in having the implicit confidence and backing of his mayor to such an extent that when "the powers" tried to remove his sanitory inspector, the mayor took personal charge of the police department, and announced that he would continue in charge so long as there was any agitation for the removal of the inspector.

Will Dr. Goodwin receive a reappointment when his present (first) term expires? Who knows?—but what a shame that our political system steps in and dictates the appointment, for political, rather than humanitarian reasons.

While so many of our cities are revising their charters under the new home rule law, let us all bend our individual and collective efforts to remove the Health Department from politics.

No city of fifteen to fifty thousand people but would be better off if a health officer, thoroughly adapted to the work and thoroughly trained, were engaged, for a long term of years, to devote his whole time to the work, and to receive adequate compensation, so that he might not engage in private practice. Such a plan would redound to the benefit of the public and the profession. It would effectually stop the professional jealousies which occasionally arise, and would be a decisive step in advance. The change need not be feared on account of lack of properly trained men, for we have them all over the State, and more are being trained now in several of our great University Medical Schools.

DR. WILEY VINDICATED

THE investigations of the Congressional Committee of the affairs of the Agricultural Department growing out of the charges against Dr. Wiley, mention of which has been made previously, have been finished, but the report has not as yet been made public. The testimony taken by the Committee seems to absolutely vindicate Dr. Wiley from any actual or intentional fracture of the law or the regulations of the department. Long before the Committee had completed its investigations the public had rendered its decision and had endorsed Dr. Wiley and his work.

President Taft, on September 15, in a letter to Mr. Wilson, Secretary of Agriculture, rendered a decision on the charges preferred against Dr. Wiley, absolutely vindicating the Doctor. Attorney General Wickersham was let down easy by the statement that all of the evidence in the case was not presented to him, therefore his decision necessarily could not be final.

While the President has completely vindicated Dr. Wiley, he recommended that Dr. Bigelow be censured for writing such "disingenuous letters" to Dr. Rusby, when endeavoring to secure the services to the Government of such a noted expert. Regarding the larger question growing out of the investigation of the Agricultural Department, President Taft feared the solution would not be so easy.

TREATMENT OF PULMONARY HEMORRHAGE

ALTHOUGH brilliant and striking advances have been made in almost every branch of medicine, the practical results from physiological research in therapeutics have not been proportionate to its importance. There still exists too large an element of empiricism among the great body of physicians in the treatment of certain diseases. A series of experiments such as Carl J. Wiggins* has con-

*Wiggins, Carl J. "Archives of Internal Medicine," p. 17, July 13, 1911.

ducted on the treatment of pulmonary hemorrhage is of great value in determining the exact effect of certain drugs. We are to be congratulated that in Michigan we have men who are willing and able to give to the profession the results of their careful, painstaking labor.

Wiggins conducted his experiments upon thoroughly anesthetized dogs. From the many drugs recommended for the treatment of hemoptysis, Wiggins tested the efficiency of digitalis, strophanthin, ergotoxin, pituitary extract, chloroform and the nitrites. The effect of these drugs upon the normal respiration, the systemic and pulmonary circulation were recorded, as well as their effects in hemorrhage. In the treatment of pulmonary hemorrhage in its early stages, he found that the pressure within the pulmonary circuit could not be lowered by nitroglycerine or the nitrites, and that cardiac depressants such as chloroform and pituitary extracts must be resorted to.

After a continued hemorrhage and its excelerating effect upon the respiration and heart, he found that pituitary extract is the only drug tested that combines the qualities necessary to elevate the lowered arterial systemic pressure and to lessen that in the pulmonary circuit. J. B. W.

IN MEMORIAM

Leonard C. Bachus, M. D., University of Michigan, 1887, a member of the Michigan State Medical Society and the Washtenaw County Medical Society, died at his home in Ann Arbor, September 8, 1911, of ptomain poisoning, from eating canned salmon. Dr. Bachus was fifty years old, born in Williams County, Ohio, and began practice at Fayette, Ohio, 1891. He came to Ann Arbor in 1909, where he practiced until his death.

Wm. H. Belknap, M. D., College of Physicians and Surgeons, Chicago, 1902, a member of the American Medical Association, the Montcalm County Medical Society, and the Michigan State Medical Society, died at his home in Greenville, August 26, 1911, aged forty.

Lewis Almon Harmon, M. D., Grand Rapids Medical College, 1905, of Marshall, Mich., died in a hospital in San Antonio, Tex., August 10, shortly after an operation for acute peritonitis, aged thirty-four.

C. W. Eastman, M. D., Detroit College of Medicine, 1904, a member of the Berrien County and Michigan State Medical Societies, died of typhoid fever, at his home in Three Oaks, during August.

William H. Scott, M. D., McGill University, Montreal, 1894, formerly a member of the Michigan State Medical Society, for several years a surgeon on transatlantic steamers, and thereafter a practitioner of Kalamazoo, died in Borgess Hospital in that city, August 27, from heart disease, aged forty-one.

Horace L. Ash, M. D., University of Heidelberg, Germany, 1874, died at the home of his son in Lansing, January 7, from cerebral hemorrhage, aged sixty-eight.

PROCEEDINGS OF THE FORTY-SIXTH ANNUAL MEETING OF THE MICHIGAN STATE MEDICAL SOCIETY, HELD AT DETROIT, SEPTEMBER 27 AND 28, 1911

COMMITTEE REPORTS

PRELIMINARY REPORT OF COMMITTEE ON ARRANGEMENTS

At the present time the Committee of Arrangements has not completed its work, and is not in a position to give a full report, but several announcements are opportune. The members from the State attending this meeting will receive a cordial welcome from the profession in Detroit.

The Wayne County Medical Society feels especially pleased to be able to open the doors of the new Medical Home on High Street to the visitors. On the evening of September 26th, open house will be held in this building, with an informal reception, refreshments, and an atmosphere to encourage the renewal of old friendship and the making of new.

An automobile committee, with thirty or forty machines at its command, will convey members and their ladies from all incoming trains to their respective hotels.

Look for the machines bearing banners with M. S. M. S.

The evening of the 27th is set apart for a reception, followed by refreshments and vaudeville. This will be held at the Hotel Pontchartrain, and all the members and their ladies are cordially invited. Other entertainment is being arranged for the ladies during the session.

The committee desires to draw particular attention to the exhibit that is being arranged for this meeting. For the commercial enterprise of former meetings there is to be substituted an exhibit of a scientific and educational character.

Contributions have been secured from some of the best laboratories in the State and country. The following is a partial list of the subjects covered by these exhibits:

1. Milk.
2. Pathologic bacteria, gross cultures.
3. Serum and vaccines.
4. Tuberculosis.
5. Cancer in lower animals.
6. Laboratory Methods (clinical).
7. Exhibits from the Laboratory of the Public Health and Marine Service, illustrating the character, pathology, etc., of Bubonic Plague.

The committee desires to express its appreciation of the courtesy of the Hotel Pontchartrain. The management of this hostelry has placed at our service the spacious and excellent quarters sufficient for all meetings.

The work of the committee has been facilitated by the enthusiasm and ready material support of the profession in Detroit.

All the physicians in the State of Michigan who have at heart the growing prosperity, the broader interest, the higher ideals of the profession, should make every effort to attend this meeting of the State Society.

J. A. MacMillan, *Chairman.*

REPORT OF COMMITTEE ON LEGISLATION AND PUBLIC POLICY

Acting upon instructions received from the Society at its 1910 meeting, your committee through its chairman, after submitting the proposed Bill to the Council at its annual meeting last January, at Battle Creek, had introduced into the House at Lansing a Medical Bill, the exact counterpart of a bill fathered by the chairman of the House Committee on Health during the session of 1907, and a member of your Legislative Committee at this time, with the additional provision covering *state aid* as distinguished from the proposed provision of *annual assessment* of licentiates. At a hearing of the proposed bill the fact was developed without question that this bill would not be reported out by the Committee and that no sentiment in favor of the bill was found to exist in the House. Under the circumstances there was no other course for your committee to adopt than to assent to the withdrawal of the bill. Your committee is of the opinion that any medical bill containing provisions in advance of the

present requirements for medical registration would have met with defeat at the hands of the 1911 Legislature.

Late in the session a substitute medical bill, containing a clause covering an assessment plan, was introduced by Mr. Jerome, of Wayne, at the instance of a prominent college man, a member of this Society, but this proposed bill had no material support either by members of this Committee, the State Medical Board, or from members of the house or its Health Committee. No attempt was made by any member of the medical profession to further the interests of this bill at Lansing, and it was "pigeon holed" by the Health Committee of the House upon request of its promoter.

The object in introducing this bill above referred to was to demonstrate the action of the House towards further medical legislation, as it was the general opinion that the provision of "State aid" was wholly responsible for the forced withdrawal of your committee's bill containing a clause providing for State aid.

Under the Constitution of the State it is the duty of prosecuting attorneys to enforce the provisions of all State acts, including the medical act. The Medical Board, therefore, is handicapped, except in violated cases, even if it had funds at its command for the purpose, in conducting prosecutions of violations of the Medical Act. There is almost an unanimous opinion among members of the profession in Michigan that a clause defining the "practice of medicine" should be incorporated into the Medical Act, but every attempt to define the term, "practice of Medicine," has been defeated in the Legislature. In the absence of such a definition it is the duty of the Courts to instruct the jury covering the legal meaning of the term as above, and while Supreme Courts in the United States have almost unanimously agreed that to hold one's self out as able to cure or relieve an ailment or disease, or to attempt to do so, with or without drugs, or by any material means; still the matter would be very much simplified in prosecuting those in violation of the medical law if the Court definition appeared in the law itself.

Your committee last year, having in view the raising of the standards of preliminary and medical education, and the enforcement of the Medical Act, suggested the assessment plan covering licentiates of this State. Under the provisions of the present Act and its administration, the income received by the Medical Board seems at this time sufficient. While the number of medical students registered in United States colleges shows a decrease of 8,356 since 1904, which decrease has naturally affected Michigan colleges and the income of the Board, which is largely derived from the graduates of medical colleges of this State, the reported registration of students during the past two years shows a very material increase. The American Medical Association has for some years past advocated a minimum standard of preliminary education in advance of an accredited high school diploma of from one to two years in a literary or scientific college which has been designated a "Biological Course," and which includes further preparation in physics, chemistry and physiology, with courses in foreign languages. Forty-seven medical colleges and nine medical Boards have already adopted these advanced requirements. A large number of prominent and experienced educators in this country oppose the A. M. A. proposed standard and advocate, on the other hand, a high standard high school course, strictly enforced, with the addition of a fifth year in a hospital as an interne. Still others advocate the A. M. A. standard and the fifth year of hospital work. Others call attention to the fact that a very large percentage of the eminent and successful teachers and practitioners of the country have only received a medical education covering a two or three years' medical course in poorly equipped colleges in comparison with the modern and high standard college of to-day, and that the medical standards adopted and advocated as above promotes "ready made" specialists, promotes commercialism in medicine, and will eventually practically eliminate the family physician. It is also charged that the high-grade graduate naturally migrates to the cities and that the country towns and districts will eventually suffer thereby.

The future standard of medical education is a complicated one. The Michigan preliminary requirement is and has been, since 1908, graduation from an accredited high school. From the fact that the Michigan certificate is more largely recognized than that of any other State at this time, and the only certificate (U. S.) recognized by foreign countries, excluding foreign states, whose laws prevent the recognition of any foreign medical credential, the conclusion is without question that the Michigan method of exact administration is responsible for this status, which is a valuable and material asset to the members of the profession in this State, and

this status is maintained notwithstanding the preliminary standard in nine states is nominally, at least, higher than that of Michigan. Flexner of the Carnegie Foundation, in his report after a thorough inspection of Medical Colleges and Medical Boards in this country and Canada, credits Michigan with almost ideal administrative methods as compared with other States in the Union, and he also states that while abroad inspecting colleges and boards he heard favorably of the Michigan Board and its methods of administration, to the exclusion of every other State Board in this country. As the form of methods has been officially recognized by the Association of American Medical Colleges, the American Confederation of State Medical Boards, and by a large percentage of the better States, further comments concerning these methods are unnecessary.

In addition a comparison of the receipts and expenses of the Michigan Board with that of other State Boards, taking into account the number of licentiates, fees, etc., will materially favor the financial administration of the Board of this State covering the whole period of its existence. A further favorable comparison may be made with any of the provinces of Canada, for example, Ontario. The average income of the Michigan Board has been considerably less than $6,000 per year. The average income of the Ontario Board is about $20,000. Michigan has a resident population of some 4500 physicians, while Ontario has a resident population of 3000 physicians.

CHIROPRACTIC

While your committee was unsuccessful in amending the Medical Act along the lines indicated by the Society, it was successful in defeating a bill creating a Chiropractic Board, and was also successful in preventing amendments harmful to the present Medical Act, and amendments to the other acts harmful and opposed by this Society. Both the Osteopathic and Optometric Acts need amendments to make them entirely constitutional and workable.

An illegal cult is making great progress in this State, establishing so-called colleges and turning out hundreds of graduates whose maximum course is nine months of night school, if adhered to, and who also conduct a "correspondence course." This cult is designated "The Chiropractic School." The secretary of the State Medical Board, notwithstanding the fact that a former attorney-general had given an opinion that "Chiropractic" was not under the Michigan laws the "practice of medicine" (and this opinion was published and distributed throughout the State, and is largely responsible for the rapid growth of this cult, and the failure of a large number of prosecuting attorneys in prosecuting), had a Chiropractic arrested upon a material case in practice and he has been committed to the Circuit Court for trial. The prosecuting attorney is firmly of the opinion that he will be convicted, and that his conviction will be confirmed by the Supreme Court if appealed. A conviction in this case will make it comparatively easy in the matter of laying further complaints and securing convictions, and will demonstrate the illegality of Chiropractic in Michigan.

Upon material furnished by the Secretary of the State Medical Board, including Supreme Court decisions, the attorneys of the A. M. A. edited a very valuable and complete brief defining the term "practice of medicine," entitled, "The Legal Aspects of Chiropractic" as applied to the Michigan Medical Acts, which has been printed in pamphlet form, seventy-nine pages, and furnished the Secretaries of the County Societies and prosecuting attorneys of the State. This brief not only defines the term "practice of medicine," as it relates to Chiropractic, but also covers other forms of cult practice, including Mechanico- and Electro-Therapy. It should be a valuable aid in prosecuting the various cults practicing medicine in Michigan.

MILK COMMISSIONS

A law was enacted at the last Legislative session providing for the incorporation of Medical Milk Commissions and certification of milk produced under their supervision. By this statute authority is given to the Board of Health of any city, village, or township in this State, so constituted as to have in its membership two or more physicians duly authorized to practice medicine under the laws of this State, to appoint a Medical Milk Commission for the purpose of supervising the production, transportation, and delivery of milk, which it is intended to use for infant feeding, or sick-room clinical purposes in said city, village, or township. In cities, villages, or townships not having a Board of Health so constituted as above stated, the State Board of Health may make such appointment.

Taking advantage of this law, any community may be protected by a reliable supply of "cer-

tified milk." This is a decided step toward conserving the health of the infant population, and it is hoped that the Medical Milk Commissions may become general and effective.

MISCELLANEOUS BILLS

An act to prohibit immoral advertising was passed, and while not as stringent as was desired, yet will do much to abolish the evil.

Bills were also passed providing for the licensing and regulation of maternity hospitals, and that a report of all occupational diseases be made by physicians to the State Board of Health, which in turn reports to the State Labor Commissioner.

EXPERT WITNESSES

Our act to regulate the employment of expert witnesses was declared unconstitutional by the Supreme Court in December last. In rendering its opinion the Court says:

The power of selecting and appointing witnesses who shall after appointment acquaint themselves with the matter in controversy, and testify concerning the same, is in no sense a judicial act, and if exercised by the court in accordance with the mandate of Sec. 3, would entirely change the character of criminal procedure, if not absolutely destroy those safeguards which our constitution has so carefully enacted for the protection of the accused. The most cursory examination of Sec. 3 will disclose its vice. The court is directed to appoint one or more suitable disinterested persons to investigate and testify. This appointment is to be made without notice to either the prosecuting attorney or the accused. The reasons which impel the court to make the selection are not on record and can never be known.

The names of the selected experts cannot be endorsed upon the indictment by the prosecuting attorney as required by law, for he himself is as ignorant of their identity as is the accused. The right of one accused of crime to know in advance the names of the witnesses who will testify against him and to examine into their character, means of knowledge, etc., in order that he may properly prepare his defense, is a right as ancient as our criminal jurisprudence.

The court is commanded to make known to the jury the fact of the appointment, and that his appointees have been found by him to be suitable and disinterested. The section then provides that other experts may be sworn by either prosecution or defense.

This is an idle provision, for in the face of the certificate of character, fitness and ability, given to the court experts by the court, experts summoned by either side would receive but scant consideration at the hands of the jury; their testimony would be swept aside in a breath.

Juries are most anxious to ascertain the opinion of the court as to the guilt or innocence of the accused, and, ordinarily, more than willing to adopt that opinion as their own. Trial courts, therefore, in doubtful cases, have jealously guarded their own opinions, in order that juries might determine controlling facts uninfluenced by the mental attitude of the judge.

The expert witnesses provided for by this section testify under a sanction which gives to their testimony practically the same weight as if it were delivered by the court itself, and if that testimony, being against the accused, were either false or ignorantly mistaken, its baneful results would be appalling. To give to the testimony of a witness or witnesses this extraordinary certificate of candor, ability, and truthfulness, while the other testimony in the case must be judged by the jury by ordinary standards, is to subvert the very foundations of justice.

We do not overlook the fact that the statute here considered was designed to correct an evil long recognized as tending to bring the administration of the criminal law into disrepute, in cases where insanity is urged as a defense, but we are of the opinion that the true remedy for this evil rests in the development of a livelier sense of responsibility to the public for the proper and decent administration of justice on the part of both the legal and medical professions, rather than in revolutionary legislation.

That both professions recognize and deplore the existence of the evil, there can be no doubt, and recent activities in both lend reason for hoping that the scandal which has often attended the introduction of expert testimony will in the future cease to be a reproach in the administration of criminal law.

Your committee, at the risk of making its report too lengthy, has deemed it proper, in view of the importance of the matter, to freely quote the words of the Court.

Constitutional limitations seem to leave little opportunity to solve this problem by statute.

Walter H. Sawyer,
E. T. Abrams.

REPORT OF DELEGATES TO THE A. M. A. MEETING AT LOS ANGELES, JUNE 26-30, 1911

At this meeting many matters pertaining to the work of the Association were discussed and disposed of. The complete minutes have already been published and may be referred to by those interested. Michigan was represented by two delegates, A. D. Holmes, of Detroit, and R. R. Smith, of Grand Rapids.

Among important matters that came up for discussion were, first, the re-creation of the Judicial Council as a permanent body, with broader functions than heretofore, and, more important still, authority to act upon all matters

of ethics pertaining to the Association. Necessary expenses are provided for. The President appointed on this Council, Billings, of Illinois, Moore, of Minnesota, Cook, of Tennessee, Lambert, of New York, and Work, of Colorado.

The question of membership in the Association was discussed without definite conclusion except the appointment of a committee to formulate definite amendments to the Constitution and By-laws, and, on the advice of counsel and on their approval by the Board of Trustees, to submit them, with the discussion of the subject, to the constituent associations and the general membership.

It has seemed desirable and necessary to those most actively engaged in the affairs of the Association that some plan be devised by which all of the members of the County and State Societies shall become members of the general organization, believing that the power and usefulness of the Association would be much increased thereby, and the wishes of the whole profession be more perfectly carried out. Since at present membership in the A. M. A. costs $5 a year (including the JOURNAL), it would hardly seem wise to force this expense upon members of the County Societies, many of whom are reluctant, and even complaining of present expense. To have no dues would give members all the privileges of the Society,—power to govern, and even dispense money without financial responsibility of their own. The matter is an intricate, but nevertheless important one, and might rightfully be discussed at the present State meeting, and perhaps recommendations made.

Respectfully submitted,

RICHARD R. SMITH.
A. D. HOLMES.

REPORT OF COMMITTEE ON STUDY AND PREVENTION OF TUBERCULOSIS

Your committee had hoped to be able to report the deliberations of the Seventh International Tuberculosis Congress, which was scheduled to convene in Rome early this year, but which was postponed on account of the presence of cholera in Naples. This World Congress is now in session, and is attended by representatives of every civilized government, by members of the medical profession and laymen from every clime, of all creeds and races. The campaign to stamp out tuberculosis has been gradually evolved, and where it has been carried out for five, ten or twenty years there the death rate has fallen and the hygienic condition of the masses improved

The world organization against tuberculosis had its origin soon after the discovery of the tubercle bacillus, and while the propaganda against tuberculosis has only been based on prophylaxis, it has been very effective, in proof of which may be witnessed the saving of lives by the decline in the death rate of tuberculosis in such countries as Germany, England, the United States and Denmark. These good results were accomplished through hygienic measures and by legislation, resulting in improved economic conditions of the people. The fight has been directed not against the specific germ alone, but also against the predisposition to acquire the disease.

It is generally recognized that tuberculosis is a mutual risk between the individual and society, that the only remedy is prophylaxis, and that it is the duty of every self-respecting citizen to do all in his power against it; that the germ and the medium must be attacked if there is to exist a real preventive campaign.

Your committee records with satisfaction the admirable work done by the Michigan State Association for the Relief and Prevention of Tuberculosis, which has headquarters in the Medical Building of the University at Ann Arbor. The work of the State Association is to establish in every city, town or village a branch committee of philanthropic citizens, who will initiate a local campaign against tuberculosis, spreading the knowledge about the disease, its prevention, and its curability in the early stages. Further, the Association serves as a central bureau of information and advice, concerning the construction of sanatoria, dispensaries and shacks. It aims to bring about anti-tuberculosis work of approved worth; to this end provides literature, material for lectures and exhibits. The Association through its Bureau of Publicity has supplied literature to every county of the State, and has established branches in forty counties.

Partially as a result of this activity your committee can report considerable progress during the year 1910. All the anti-tuberculosis forces in the State, more especially in the cities, have been active. Sanatoria for advanced cases have been constructed by municipalities and counties, and some by anti-tuberculosis societies. The notification law is in operation with its beneficent provision for disinfection of the premises, which if carried out efficiently will prove a strong weapon against infection.

The number of cases reported during 1910 is 3521, which is very much less than the actual number. From the mortality rate of our State it is estimated that 15,000 of our citizens are afflicted with tuberculosis.

Your committee believes that the institutional care of pulmonary tuberculosis and the establishment of free dispensaries is of most practical value in the prevention and cure of the disease, because they serve a twofold purpose, that of segregation and education. Sanatoria have been constructed during the last year in Detroit, Eloise, Marquette, Ann Arbor, Ionia, Sault Ste. Marie, Houghton and Hancock. The buildings were constructed more or less after the State Sanatorium at Howell, which represents an investment of $100,000 and serves as an object lesson to the citizens of the State in the care of pulmonary tuberculosis. A beneficent feature of the State Sanatorium lies also in the financial arrangement, by which citizens reduced in circumstances may be treated free for six months, the expenses being defrayed by the county from whence the patient came, and by the State. The accommodations at the State Sanatorium consist of eighty beds. Some pertinent facts concerning this institution were published in the September number of our State Medical Journal.

The medical profession is urged to co-operate with the Board of Trustees and the Superintendent, Dr. E. B. Pierce, in utilizing this institution for the benefit of the tuberculous patient, as well as the State. It is generally conceded that segregation amid pleasant surroundings of the tuberculous subject offers a chance for the arrest of his disease and protection to the public, for even the most careful tuberculous patient will in time infect his dwelling-room and premises.

In connection with this subject of sanatoria for advanced cases, your committee takes pleasure in quoting the recommendations of our National Association for the Study and Prevention of Tuberculosis at the meeting held in Denver on June 20-21, 1911, which reads as follows:

"Whereas, the care of advanced cases of tuberculosis has been found from experience to be particularly difficult in institutions located at a considerable distance from the home of the patient; and

"Whereas, the municipality and the county have in most cases been found to be satisfactory units for the care of advanced cases, and

"Whereas, the stamping out of tuberculosis depends so largely upon segregation of advanced cases; therefore be it

"Resolved, That the National Association for the Study and Prevention of Tuberculosis approves a plan whereby municipalities and counties shall be encouraged to erect satisfactory institutions for the treatment of advanced cases, and be it further

"Resolved, That this Association approves a plan whereby municipalities and counties shall be encouraged to establish dispensaries for the discovery, treatment and prevention of cases of tuberculosis."

Your Committee reports that favorable legislation was obtained by the creation by law of Milk Commissions under the direction of the State Board of Health, which will insure better milk supply. But your Committee would recommend further legislation with a view of restricting the sale of milk from tuberculous cattle. In connection with the subject of milk and bovine tuberculosis, we beg to quote the suggestions made by the American Association for the Study and Prevention of Tuberculosis at the Denver Meeting. They read as follows:

"Whereas, It has been demonstrated experimentally by bacteriologists of high standing in this and other countries, and by two governmental commissions, that the bovine tubercle bacillus causes serious and fatal tuberculosis in human beings; and,

"Whereas, milk from tuberculous cattle appears to be the medium through which transmission of bovine tuberculosis to human beings most commonly takes place; be it

"Resolved, That the National Association for the Study and Prevention of Tuberculosis recognizes the danger to mankind from tuberculosis of cattle; and be it

"Resolved, That this Association recommends that all cows furnishing milk for human consumption be subjected to the tuberculin test, and that all animals which react to this test be excluded from dairy herds; and be it further

"Resolved, That where these measures cannot be efficiently carried out, the Association recommends the efficient pasteurization of milk as a safeguard against the transmission of bovine tuberculosis to mankind."

Your Committee recognizes the great value of school examinations for the promotion of the health of the children and in the elimination of tuberculosis. We recommend that subnormal children be placed in the open air school, and that it is timely to provide not only more playgrounds, but also that more fresh air be supplied to healthy children in the school-room to prevent anemia and tuberculosis. H. J. Hartz, *Chairman.*

REPORT OF THE COMMITTEE ON VENEREAL PROPHYLAXIS

It is but to repeat facts well known to iterate that the problems connected with the control

of syphilis and gonorrhea cannot be solved in the same way as those which have confronted and still confront the control of tuberculosis. The campaign against tuberculosis and the other non-venereal contagious diseases is being waged mainly through the education of the public in all possible ways as to their source and their remedial means. No disgrace, only misfortune and sympathy, is attached to the tubercular patient. In venereal diseases, on the other hand, a grave moral issue is at stake, a moral issue that cannot be lost sight of in any prophylactic measures which may be undertaken. With few exceptions, disgrace is attached to the venereal patient. In tuberculosis no vital force is urging one to risk consequences to satisfy a natural or an exaggerated sexual instinct. No one, excepting perhaps the immediate relatives or attendant, voluntarily exposes him or herself to consumption or typhoid fever. In venereal diseases voluntary exposure is the rule; a chance is taken in full knowledge of its consequences. No one questions for a moment the great value of public instruction regarding tuberculosis and other non-venereal diseases. Many, professional and lay alike, strongly question the advisability of public discussion of venereal conditions, despite the fact of their greater prevalence and more serious consequences to public health and public morality. Some even believe, which belief many of the profession share, that a public discussion leads not infrequently to a morbid curiosity for sex gratification and excites the very passions we would urge be kept under control. Those of us, however, who have given the subject more intimate thought and study believe that only through public enlightenment and the creation of a strong public sentiment will the ravages of venereal diseases ever be controlled or even curtailed.

To what extent venereal diseases are rampant, to what consequences infection leads in the guilty and the innocent alike, are as well known to you as to us, and no further comment is necessary. But just how much publicity should be given to these facts, how such knowledge and to whom such knowledge should be imparted and to what extent Boards of Health should be given control of these diseases, are still open questions. The ultimate result of the right of a Board of Health to enforce the reporting of contagious diseases must be its right and its power to enforce a quarantine, if necessary. But some doubt even the legal right of any Board to demand the report of venereal diseases.

In many States such power is not conferred upon their Boards of Health, and many believe that an attempt to enforce such regulations beyond the brothel would not in the present state of public enlightenment meet with support, and would not only encourage patients to suppress the fact of the existence of disease but would cause them to seek treatment of less trained hands. It will be stated that these same arguments were used against the reporting of tuberculosis, but that they have been shown to be fallacious. But, as already shown, a moral issue is involved here, which never can be overlooked.

The possibility of awakening the public to a desire for medical knowledge has already been shown in the campaign against tuberculosis during the last two or more years. The necessity on the part of the medical profession to satisfy this desire was particularly emphasized by Dr. J. B. Murphy in his recent presidential address before the American Medical Association. At this same meeting, the Reference Committee on Hygiene and Public Health stated in part:

"At the present time, there is no greater problem for the profession to solve, or more important work for the American Medical Association to undertake, than the question of the study and control of venereal diseases, and while your Committee recognizes the fact that the question is not alone a medical one, yet there is so much that is purely medicinal that we feel that the Council on Health and Public Instruction should be instructed by the House of Delegates to appoint a special committee to investigate and study this subject and to report their conclusions to the next session of the Association."

On recommendation of the section on Preventive Medicine and Public Health, the House of Delegates adopted the following proposals on the investigation and control of syphilis and gonococcus infections:

1. That syphilis and gonococcus infections be made reportable.
2. That boards of health be supported by the medical profession in controlling diseases without prejudice as to sex or occupation.
3. That the medical profession do everything in its power to advance the moral and ethical issues involved.
4. That measures for popular education relating to these diseases be encouraged by every member of the Association.
5. That the American Association of Sex Hygiene be invited to confer with the Council on Health and Public Instruction in order to develop practical methods for obtaining the desired results.

In these measures this Committee heartily

concurs, and urges each member of this House to bring them to the notice of his County Medical Society, that his Society may take such means to bring them into practical effect as it is deemed advisable.

In this State much credit is due the Detroit Society of Sex Hygiene for its work during the last year. By its meetings with many interested professional men, including the efficient Health Officer of the City of Detroit, and lay members, including the judge of the Juvenile Court; by its bringing to the City of Detroit men of prominence throughout the country to address these meetings, much knowledge has been disseminated among its members and through the co-operation of the Press among the public concerning these social evils. Much enthusiasm has prevailed, and the best ways and means to enlighten the public have been discussed. It is undoubtedly the consensus of the opinion that the youth must be in some way instructed as to sex hygiene, and as this is essentially the "Century for the Child," some way will be found as to how best to enlighten him.

No report upon Venereal Prophylaxis would be complete without reference to the manner now in vogue to control the spread of these diseases among the soldiers and sailors of the country. The use of these prophylactic measures among men concentrated in camp or barrack life and on shipboard and *under discipline* has been unquestionably effective in controlling these diseases; but it is doubtful if such measures can be enforced in civil life. The success of the plan depends essentially upon the co-operation and intelligence of the men, and in civil life the difficulty of handling our patients under such conditions is too apparent. And we doubt very much if the public be ready to entertain such advanced hygienic ideas, even if advocated through the Boards of Health; and it is certain that at present the profession would be none too eager, for the fear of being misunderstood, to stand sponsor for such measures.

Respectfully submitted,

Andrew P. Biddle, *Chairman*,
Wm. E. Blodgett,
Charles E. Hooker.

Addendum to Report

This report meets my approval except that no mention is made in it of what I have for a long time thought was important in this matter. And that is the education of the public to youthful marriage, and to early productive occupation, so that the really necessary money for marriage may be forthcoming to the average man by the time he is twenty-five or less, and up to that time he may be planning definitely for a clean family of his own. This might be helped by cutting out the impractical parts of schooling, and perhaps by certain legislative favors to the young husband, such as reduced taxation, and governmental cheap life-insurance.

In addition to this, I believe that the ban for religious disapproval and professional secrecy regarding harmless methods to prevent conception in wedlock should be removed.

By the combination of early marriage and, where demanded, freedom of conjugal relations without fear of excessive progeny, the incentive to risk and transmit venereal disease would be largely taken away, and the demand for criminal abortion much reduced.

W. E. Blodgett.

REPORT OF THE COMMITTEE TO ENCOURAGE THE SYSTEMATIC EXAMINATION OF THE EYES AND EARS OF SCHOOL CHILDREN THROUGHOUT THE STATE

The Committee appointed to encourage the systematic examination of the eyes and ears of school children throughout the State has the honor to make the following report:

Many interesting letters have been received showing great personal interest in the work, and a very decided advance has been made during the year. The opposition that was met at first has gradually disappeared, until now, school authorities, teachers and parents, all appreciate the great importance of the work.

Lack of funds has made it impossible to send out letters of instructions, together with requests for reports, but the Committee wish to announce that it has copies of reprints of the last detailed reports made before the Society, which will be sent on request to any member of the Society.

The Committee would again urge all county members to present the work to school authorities and teachers whenever an opportunity presents itself. We would also ask that each county member send in to the Chairman a report of the progress of the work in his county sometime before the next meeting of the Society.

Respectfully submitted,

Walter R. Parker, *Chairman*,
Chas. H. Baker,
Wilfrid Haughey.

COUNTY SOCIETY NEWS

BRANCH

The annual meeting of the Branch County Medical Society was held in the Y. M. C. A. Rooms, Tuesday, July 18, 1911. The minutes of the last meeting were read and approved. Report of the Treasurer was read and accepted. Dr. E. E. Hancock, of Girard, was elected a delegate to the State meeting and Dr. W. H. Whitmore, of Quincy, as alternate. The following officers were elected for the coming year: *President*, Dr. W. H. Baldwin, of Coldwater; *Vice-President*, Dr. B. W. Culver, of Coldwater; *Secretary and Treasurer*, Dr. S. Schultz, of Coldwater. President's address, "Treatment of Gastroenteroptosis."

Dr. W. A. Griffith, of Coldwater, read a paper on "Apoplexy, Cause and Treatment."

The annual meeting was changed from 3rd Tuesday in July to 2nd Tuesday in January.

Meeting adjourned.

S. Schultz, *Secretary.*

CALHOUN

The Calhoun County Medical Society met in Marshall, Septemper 5, 1911, with an enthusiastic gathering of twenty members.

Dr. J. B. Jackson, of Kalamazoo, opened the Scientific Program with a paper entitled, "The Diet of the Infant During the Second Nutritional Period." The doctor purposely kept away from all allusions to early infant feeding, and gave a clear, concise idea of the varied and variable diet of the infant after its demand for other than milk feedings.

Dr. James T. Case, of Battle Creek, gave an exhaustive and scientific outline of the latest contributions to "X-ray therapy."

Dr. Eaton's paper on "Pertussis" provoked an active discussion, in which considerable feeling was aroused because of the laxity with which this disease is cared for as regards the quarantine, and a committee consisting of Drs. Wilfrid Haughey, S. R. Eaton and R. M. Gubbins submitted the following resolution to be sent to the Secretary of the State Board of Health:

"Resolved, That the Calhoun County Medical Society in regular session in the city of Marshall appreciates the fact that pertussis (whooping cough) is one of the most fatal of the contagious diseases of childhood.

"Resolved, That the Calhoun County Medical Society hereby expresses its desire that through the efforts of the State Board of Health and the various Health Officers of the State, the public may be better instructed in the dangers of this disease, that the disease be reported, and that stringent quarantine regulations be enforced."

Wilfrid Haughey,
S. R. Eaton,
R. M. Gubbins.

Drs. R. T. Adair and W. M. Carling were admitted to membership.

The next meeting, the annual, will be held in Albion.

A. S. Kimball, *Secretary.*

GRAND TRAVERSE

Regular meeting of the Grand Traverse-Leelanaw County Medical Society held in Dr. Wilhelm's office. Eight members were present. Minutes of the last meeting were read and approved. An invitation was read from Benzie County Medical Society, asking the physicians of this County Society to banquet with them in the near future.

A vote of thanks was extended to Dr. Fralick for his entertainment of the Society at a picnic recently on Glen Lake.

Dr. R. P. Bruce, of Williamsburg, was admitted to membership in the Society.

Dr. Thurtell read a very interesting paper on "Non-infective Types of Pelvic Conditions," followed by a general discussion. Adjourned.

R. E. Wells, *Secretary.*

HURON-TUSCOLA

At the joint meeting of the Tuscola and Huron County Medical Societies, held at Cass City, August 14, Dr. Daniel Conboy, of Bad Axe, read the following paper on

Case of Poisoning from Inhalation of Wood Alcohol.

At the 1904 meeting of the Michigan State Medical Society, I read an article on poisoning

by inhalation and absorption through the skin of wood alcohol. In the same year Dr. Casey A. Wood, of Chicago, and Dr. Frank Buller, of McGill University, Montreal, made a report to the American Medical Association of all known cases of poisoning by methyl alcohol up to that date.

In that report the authors gave 153 cases of blindness and 147 cases of death from methyl alcohol poisoning during the preceding few years, amounting to about 300 altogether. This report was published in the Association Journal,* and since then fewer cases have been reported in the daily press.

Certainly most of these cases of blindness and death occurred from drinking the alcohol in various quantities from one half ounce or more, or contained in such drinks as flavoring essences, Columbia spirits, bay rum, Florida water, witch hazel, methylated spirits, etc. Several cases of intoxication have occurred from inhaling the stuff used in shellac and varnish, particularly while working with the stuff in closed spaces.

Two very significant instances are reported of poisoning by burning wood alcohol in lamps. One was from the practice of Dr. Salmore, of Oklahoma City. In December, 1903, the parents of a six months' old infant noticed that something was wrong with its eyes and thought it could not see. On examination the ocular fundi indicated toxic amblyopia. The parents had been burning a wood alcohol lamp beside the crib, to help keep it warm. The lamp was discontinued and the child improved slowly to total recovery.

Dr. Harold Gifford, of Omaha, Neb., reported the case of a woman of thirty-five who in 1902 complained to him of gradually losing her sight during the preceding two weeks. Retinal fields showed a toxic amblyopia. On questioning he found it had been her habit for two or three months during the winter to use wood alcohol to heat water in her room. This was during the winter in a small bedroom nearly every evening, so that it can easily be perceived that the ventilation must have been deficient, especially since there was no other fire. The sight began to improve after she stopped burning the methyl alcohol, when vision rose from $^{20}/_{200}$ in each eye to normal.

In my first case the blindness and dizziness were caused by the patient rubbing the villainous stuff on her face to improve her complexion. Her troubles ceased almost immediately when she stopped her alcoholic ablutions. Her vision rose from almost total blindness to normal in about six weeks.

My last case was Miss S., who complained of being scarcely able to walk from dizziness; she also had dark spots before her eyes. Heart presented no abnormality in way of murmur, rhythm or accentuation of tone. Urinalysis showed no albumen or sugar present. A pint bottle with a druggist's label marked "Wood Alcohol" was noticed in her bedroom. Inquiry gave the information that she was using it in a lamp three times a day to heat water in her small room. She began to recover immediately on cessation of her alcoholic ablutions.

When methyl alcohol is burned in a lamp, it certainly must be a decomposition product that is inhaled which produces the well-known symptoms. The peculiarity is, that the toxic symptoms are the same whether the stuff is drank as an alcohol, or the decomposition product formed by burning is inhaled. In other words, the chemical change is an oxidation, whether such change is brought about in the body or by external heat.

When it is burned in a restricted supply of air, formaldehyde is produced. Hence, a small, unventilated room where a lamp with methyl alcohol is burned with limited oxidation affords the proper conditions for the production of the noxious gas. The chemical change is shown by the following reaction: $CH_4O+O=CH_2O+H_2O$. Paraphrased that means that methyl alcohol plus one atom of oxygen yields formaldehyde gas plus water. Thus it will be seen that this irritant gas is an aldehyde formed by the removal of two atoms of hydrogen from the alcohol to form a molecule of water, and stands intermediate between methyl alcohol and formic acid (CH_2O_2), hence the name formaldehyde.

*Jour. A. M. A., Oct. 8, 15, 22, 29, 1904.

MUSKEGON-OCEANA

Regular meeting of the Muskegon-Oceana County Medical Society was held August 18, at "Rest-A-While" cottage, at North Muskegon, with Dr. L. I. Powers.

Meeting called to order by the President, Dr. Geo. S. Williams, at 7.40 P. M., after dinner at 6 o'clock.

Members present: Drs. Geo. S. Williams, A. A. Smith, W. L. Griffin, R. G. Olson, I. M. J. Hotvedt, J. M. Vander Ven, J. T. Cramer, G. J.

Hartman, Jacob Oosting, L. W. Keyes, W. A. Campbell, W. P. Gamber, J. F. Denslow, L. I. Powers and V. A. Chapman.

Dr. Denslow presented the matter of repair of certain streets to make better roads of entrance into the eastern part of the city. It was moved, seconded and carried that a committee be appointed to interview the Mayor and Council to influence the repairing of these streets. Drs. J. F. Denslow, Jacob Oosting and J. T. Cramer were appointed on this committee.

The matter of the advisability of the physicians of this Society aiding in the proposed industrial edition of the *Muskegon Morning Times* by taking space in its write-up columns was discussed. It was moved by Dr. Oosting and seconded that the matter be laid upon the table for an indefinite period. Carried.

Dr. Gamber read a paper upon the subject of "The Internal Secretions in Health and Disease." The discussion was opened by Dr. Campbell, followed by Drs. Oosting, Griffin, Olson, Hotvedt and Gamber.

Meeting adjourned.

V. A. CHAPMAN, *Secretary.*

Regular meeting of the Muskegon-Oceana County Medical Society was held at the Odd Fellows Hall, Shelby, Mich., September 1, 1911, as the guests of Dr. W. F. Griffin, of Shelby, Dr. J. M. Vander Ven, of New Era, and Dr. J. M. Stone, of Ferry.

Members present: Drs. Geo. S. Williams, W. F. Griffin, J. D. Buskirk, J. M. Vander Ven, J. M. Stone, J. H. Nicholson, L. P. Munger, Chas. F. Smith, W. A. Campbell, I. M. J. Hotvedt, J. F. Denslow, W. P. Gamber, L. N. Eames, F. B. Marshall, Alfred Brocke, R. G. Olson, A. A. Smith, Jacob Oosting, P. A. Quick and J. T. Cramer. As guests: Dr. Plummer, D. D. S., Dr. Davidson, D. D. S., Dr. Dretake, Mr. Tuller, President of Village, Mr. Bottom, and Mr. Royal.

Dr. Hulst, of Grand Rapids, was the speaker of the evening. His subject was, "The Lungs as Studied by X-Rays."

A few clinical cases were shown, but there was no discussion regarding them, because of lack of time.

Dr. Williams announced that Miss Greener had extended to the members of the Muskegon-Oceana County Medical Society an invitation to attend the graduating exercises of the Hackley Hospital Training School for Nurses, to be held at the Women's Club.

Dr. Smith moved that we meet with Dr. Munger and Dr. Lamb at Pentwater, September 14, 1911. Seconded and carried.

Dr. Olson moved that we extend thanks to Dr. Hulst for his interesting talk. Seconded and carried.

Meeting adjourned.

J. T. CRAMER, *Sec. pro. tem.*

NEWS

Under a new ruling of the State dairy and food department, all grocers, butchers, bakers and dealers in fruit must exercise more care than ever covering vegetables, fruit and other foods they display. Hereafter none of it can be exposed to dirt and flies or unsanitary conditions.

This action is based on Section 4978 of the compiled Laws of Michigan amended in 1905. The law gives the department general supervision over all food products in so far as cleanliness and sanitation are concerned. During the past few weeks dairy and food inspectors have been giving attention to conditions under which food is displayed, sold and delivered. For the first time they have made a careful study of the subject. The ruling is the result.

It means bakers must carry their bread about in covered baskets or trays. Neither cookies nor meats can be placed where flies can feast. Grocers and fruit dealers cannot keep fruit in places where it will be unclean.

Dr. Guy L. Connor, 703 Washington Arcade, Detroit, announces that he has limited his practice to nervous and mental diseases.

The Secretary of the State Board of Health, after visiting Calumet, reports that in his opinion the leper Marillius Jensen is a menace to the public health. All that can is being done, but there should be some way of removing him to a leper colony. He is now living in a hut and being cared for by his wife and four daughters.

The Grand Rapids and Detroit Boards of Health are paying ten cents a pint for flies, and the children are reaping a harvest, using fly-catchers supplied by the Board.

By the will of the late Dr. Henry A. Cleland, of Detroit, $5,000 is left to the Children's Free Hospital and $3,000 to the Wayne County Medical Society.

The Board of Health of Grand Rapids is taking steps to have every maternity hospital take out a license, as was provided by the Michigan Legislature at its last session. Proper blanks for application are being printed, and it is the intention of the Board to enforce the act.

Health Officer Kiefer's statement that cases of typhoid fever in Detroit are not being reported to the Health Board has brought many denials from the physicians of the city. About a score of cases are being treated in the local hospitals, and the hospital authorities say that their cases are reported regularly, as soon as it is definitely determined that a patient is suffering from the disease. The State Board of Health, through its secretary, has issued a statement warning the public against "typhoid carriers," people who may communicate the disease, although not suffering from it themselves.

The experience of the Michigan State Board of Health in investigating the school houses of the State shows that while during vacation time some improvements are made to overcome the worst conditions, yet these improvements are only too apt to be makeshift and inadequate. The State Board of Health Bulletin reminds citizens that the health of school children demands a more lively recognition of their needs: pure air, supplied at the rate of not less than thirty cubic feet per minute for each occupant of the room, adequate lighting, from the left side, or left side and rear, of the room; adjustable seats to suit the needs peculiar to each pupil; clean, well ventilated toilets.

Members of this Society and others who may have had personal experience in the Operative Treatment of Aneurism by the intra-saccular method of suture (Endoaneurismorrhaphy, also known as the "Matas Operation") will confer a favor by communicating their experience to Dr. R. Matas, 2255 St. Charles Avenue, New Orleans, Louisiana.

Dr. Raynale, of Harbor Beach, Huron County, is now in Europe. When he returns he will locate in Birmingham, Michigan.

Dr. and Mrs. L. W. Toles, of Lansing, sailed on September 13th for Europe, to remain about four months.

Dr. Emil Amberg, 270 Woodward Ave., Detroit, has been requested by the Verband der Aerzte Deutschlands (Association of the Physicians of Germany) to furnish the names, addresses, official positions, hospital appointments, place of birth and citizenship of those who have graduated as physicians or have received the Doctor degree (Medical) from a German University. Those concerned will oblige by communicating with Dr. Amberg.

September 13th burglars broke into the home of Dr. J. A. Attridge, of Port Huron, taking about $200 worth of silver and jewels.

COMMUNICATIONS

Bad Axe, Mich., Sept. 15, 1911.

Dr. Wilfrid Haughey, Battle Creek.

Dear Editor: A certain J. M. Richardson, M. D., has recently visited Bad Axe on two different occasions, and advertised himself quite glaringly as an eye specialist, and promised to fit glasses with free consultation. I communicated with Dr. B. D. Harison, who informed me that this man was not on record as possessing a State license. After a short "free consultation" with our prosecuting attorney, he took the next train, presumably for some other part of Michigan. He acknowledged having no license, but said he had a diploma from a medical college.

Respectfully,

D. Conboy, *Sec. Huron Co. Med. Society.*

BOOK NOTICES

International Clinics. A quarterly of illustrated clinical lectures and especially prepared original articles. Edited by Henry W. Cattell, A. M., M. D. Vol. II, Twenty-first series, 1911. Philadelphia and London. J. B. Lippincott Co. Net, $2.00.

This volume is full of valuable information, but probably most important is the article by William S. Wadsworth, of Philadelphia, on wounds. He deprecates the description of wounds and injuries found in the ordinary books as being founded on the arrangement and mode of description in textbooks of surgery. In medico-legal work such descriptions are not adequate. It is better to describe wounds as cuts, bruises, etc., than as incision, contusion, etc. The latter always has to be explained to the judge and jury, and then there are not enough of these "trade names" to

describe half the wounds found. The paper shows how to draw conclusions as to cause and manner of injury, with the court use of such information in view. This one paper is worth the price of the book.

Handbook of Suggestive Therapeutics. Applied Hypnotism, Psychic Science. A manual of practical psychic therapy designed especially for the general practitioner of medicine and surgery. By Henry S. Munro, M. D., Omaha, Neb. Third edition, revised and enlarged. St. Louis: C. V. Mosby Company, 1911. Net, $4.00.

In this work Dr. Munro endeavors to show that all doctors use suggestion either consciously or unconsciously, and that the unconscious variety is often as potent for evil as the conscious variety is for good. He shows by unanswerable argument that most people are amenable to suggestion, that the sick are more so than the well, and shows how the actions of medicine and remedies are greatly enhanced in value by the assurance conveyed to the patient by a positive prognosis of recovery. He insists that as long as we can recognize a chance for recovery, or a reasonable hope, that if we can improve that chance or increase that hope we greatly increase the patient's ultimate prospect of recovery.

The cures effected by Christian Science, Emanualism, Osteopathy, etc., are clearly shown to be the results of suggestions in the form of positive promise of cure, and that a large proportion of our population is susceptible to such suggestion. He believes that when educated, intelligent physicians generally use scientific suggestion habitually, we will be no longer humiliated by our patients employing these cults; that the fittest will survive, and he believes the educated profession to be the "fittest."

In one chapter the principles of hypnotism are explained, as is also the method used by Dr. Munro in producing the hypnotic or "suggestible state," a condition that he believes useful in a considerable proportion of cases, and in such cases he holds its use not only justifiable, but almost a duty.

The conditions in which psychotherapy have been found useful are separately discussed in the different chapters with reference to the application of scientific suggestive therapeutics, and the arguments are strong.

We have all been taught the value of cheerfulness in the sick room, but Dr. Munro insists that many of us do not know how to practice suggestion, and that a physician "might as well knock the patient on the head with a hammer as use psychic influences, unconsciously though it be, to retard rather than promote recovery."

The Practical Medicine Series. Comprising ten volumes of the year's Progress in Medicine and Surgery. Under the general editorial charge of Gustavus P. Head, M. D., and Charles L. Mix, M. D. Vol. IV, Gynecology, edited by E. C. Dudley, A. M., M. D., and C. von Bachelle, M. S., M. D. Series 1911. Chicago: The Year Book Publishers. Vol. IV, $1.25. Set $10.00.

In the present volume among the many advances of the year we find observations on celioscopy illustrating the introduction of the illuminating speculum after vaginal hysterectomy, and obtaining a view of the entire abdominal cavity, to and including the anterior border of the liver. The bivalve uterine drain of A. E. Gallant is explained, and illustrated in use and out, but the editors issue a warning against the indiscriminate use of all instruments for intrauterine employment. Two pages are devoted to suggestion and suggestive anesthesia. Much advance is shown to have been made in many lines of gynecology: e. g., plastic operation for forming an artificial vagina from a section of intestine in cases of acquired atresia; in the treatment, both medical and surgical, of tumors, benign and malignant. The editors are somewhat skeptical of the seemingly extravagant claims for X-ray treatment of myomata that have been put forth. A short chapter is devoted to the study of the effect on the pelvic organs and their function of traumatism, local or general.

Displacements and their management have received much attention, and many new methods for their treatment have been devised. In summing up the results from the use of the corpora lutea in gynecology, the editors pertinently enquire if the sequences reported result from suggestion.

These Year Books are particularly valuable in summing up for us the year's advance along all lines. Much chaff is sifted out, but everything of value or possible value is retained, and hints given where further study is needed.

The Practical Medicine Series. Comprising ten volumes of the year's Progress in Medicine and Surgery. Under the general editorial charge of Gustavus P. Head, M. D. and Charles L. Mix, M. D. Vol. V, Obstetrics, edited by Joseph B. DeLee, A. M., M. D., and Herbert M. Stowe, M. D. Series 1911. Chicago: The Year Book Publishers, Vol. V, $1.25. Set, $10.00.

Volume V, on Obstetrics, of the Practical Medicine Series of 1911, in every way maintains the reputation and prestige established by its predecessors. Dr. DeLee has thoroughly gone over and carefully reviewed the entire obstetrical literature of the year, noting the advances made, inserting critical notes where needed. The amount of space given to Caesarean Section in

contra-distinction to that devoted to craniotomy, which is only referred to in special cases of inviable fetus or virulent infection, shows the healthy trend of professional thought to-day on this subject. The page on Legal Aspects of Criminal Abortion should be read by all.

Diseases of the Ear, Nose and Throat for the family physician and the undergraduate medical student. By H. O. Reik, M. D., Associate in Ophthalmology and Otology in Johns Hopkins University, assisted by A. J. N. Reik, M. D. New York and London: Dr. Appleton and Company, 1911. Net, $3.00.

This book presents in a remarkably clear style the facts about diseases of the Ear, Nose and Throat which the general practitioner should know. Details are not entered into, neither are particularly technical subjects. As stated in the preface, "The aim of the Manual is to present to the family physician and to the undergraduate medical student, in the simplest possible manner, all that he needs to know about these subjects, exactly what he may be required to know, and nothing more than he should be compelled to acquire."

Drs. Reik have succeeded well, and have given us a valuable book, not too large and full of detail for the men to whom it caters, as so many of these books are apt to be.

Hieronymus Fracastor's Syphilis, From the Original Latin. A Translation in prose of Fracastor's immortal poem. Printed on hand-made imported paper; library binding. Crown Octavo. The Philmar Company, Medical Publishers, Fidelity Building, St. Louis, Mo. Price $2.00.

The translation of this poem adheres to the literal as much as possible, but is entertaining and easily readable. Fracastor's Poem (Latin Hexameters) gave a name to the dread disease which he describes and the treatment of which he so well outlines. And Fracastor was not so far behind. His advice to the afflicted was; "At all events, do not succumb to the attractions of love. Nothing could be more harmful, and your kisses would taint the tender daughters of Venus with a detestable contagion." He used mercurial inunctions and cured the disease. He was not afraid of salivation, for he says: "Very soon you will feel the ferments of the disease dissolve themselves in your mouth, in a disgusting flow of saliva, and you will see the virus, even the virus, evacuate itself at your feet in rivers of saliva.

"This treatment being completed, you may then, without fear, recall Bacchus to your table and enjoy in full liberty the generous nectars of Phetia, of Falernum and of Chios."

To any one interested in Medical History or Literature, the persual of this book would be a pleasant pastime.

A Manual of Practical Hygiene. For Students, Physicians and Health Officers. by Charles Harrington, M. D., late Professor of Hygiene in the Medical School of Harvard University. Fourth edition, revised and enlarged by Mark W. Richardson, M. D., Secretary to State Board of Health of Massachusetts. Octavo, 850 pages, with 124 engravings and 12 full-page plates, in colors and monochrome. Cloth, $4.50, net. Lea & Febiger, Philadelphia and New York, 1911.

The Fourth Edition of Practical Hygiene, by Dr. Charles Harrington, has made its appearance, and is a valuable work. Although Dr. Harrington died when this edition was but little more than started, the same high class of confident diction and literary tone has been maintained throughout by Dr. Mark W. Richardson, to whom fell the task of completing the labor so well begun by Dr. Harrington.

The work is comprehensive, devoting pages and chapters to intelligent consideration of foods both animal and vegetable, milk and its products. The scientific procuring and distributing of milk, in pure and hygienic condition, deserves special attention. Food Preservation, Beverages, Condiments, Spices, all are considered. The Air, the Soil and Water, Habition, Sewage, Disinfectants, etc., are headings to chapters.

The hints on plumbing are very valuable. The principles of plumbing should be understood by all doctors, and the reviewer, himself an experienced health officer, knows of no place where they can be obtained in a more clear-cut and up-to-date manner than in this book.

The work also treats extensively of the disposal of garbage, of military, naval, tropical and occupation hygiene, the relation of insects to human disease, vital statistics, exercise, infections, quarantine and disposal of the dead. As a guide to hygiene, in either private or public life, it is of the greatest value.

Diseases of the Stomach, with Special Reference to Treatment. By Charles D. Aaron, Sc. D., M. D., Professor of Gastroenterology and Adjunct Professor of Dietetics in the Detroit College of Medicine, Professor of Diseases of the Stomach and Intestines in the Detroit Post-Graduate School of Medicine, etc. Octavo, 555 pages, with 42 illustrations and 21 plates. Cloth, $4.75, net. Lea & Febiger, Philadelphia and New York, 1911.

The preface declares "the author has endeavored to cover the medical aspects of gastric disorders in such a manner as to answer the actual needs of the practitioner. . . It is intentionally practical and therapeutic. . . . With regard to surgical treatment, no more has been attempted than to give the indications." This plan has been conscientiously followed. Unfortunately the author's individual views are sometimes obscured by the multiplicity of references and quotations from others. The reviewer would like to see a monograph from this author giving his own experiences and opinions.

MICHIGAN REGISTRATIONS SINCE LAST REPORT

EXAMINATION HELD AT ANN ARBOR JUNE 13, 14 AND 15, 1911

Name and Address		College	Date
Armstrong, D. K.	Toledo, O.	Homeo. Dept., U. of M.	1911
Arner, Fred L.	Groveland, N. Y.	" "	"
Arnold, H. L.	Owosso, Mich.	Dept. of M. & S. "	"
Auer, Edward M.	Rochester, N. Y.	" "	"
Bailey, Robert	Flint, Mich.	Homeo. Dept. "	"
Barry, Lee W.	Owosso, Mich.	Dept. of M. & S. "	"
Benjamin, A.	Chicago, Ill.	Sag. Val. '02, Coll. of M. & S., Ill.	"
Benjamin, W. O.	Kearsarge, Mich.	Dept. M. & S., U. of M.	"
Bennett, F. J. A.	Auburn, N. Y.	" "	"
Brondstetter, M. F.	Mt. Pleasant, Mich.	" "	"
Canwright, Harry L.	Battle Creek, Mich.	" "	"
Carpenter, G. B.	Big Rapids, Mich.	" "	"
Case, Edward P.	Patchogue, N. Y.	Homeo. Dept. "	"
Cole, Lloyd G.	Troy, Pa.	" "	"
Cooper, Harry L.	Niles, Mich.	Dept. M. & S. "	"
Cribbins, F. A.	Saginaw, Mich.	Jefferson Med. Coll. Pa.	"
Crissey, Roy H.	Ft. Wayne, Ind.	Dept. M. & S., U. of M.	"
Derfus, Ludwig F.	Salem, O.	" "	"
DeWitt, Stuart L.	Spring Lake, Mich.	" "	"
Dunton, Allen H.	Detroit, Mich.	Homeo. Dept. "	"
Ernst, Arthur A.	Au Sable, Mich.	" "	"
Evans, Frank N.	Emerson, Iowa	Dept. M. & S. "	"
Fraser, Mary L.	Battle Creek, Mich.	Cooper Med Coll., Cal.	1904
Guilfoil, James A.	Auburn, N. Y.	Dept. M. & S., U. of M.	1911
Hackett, Thos. C.	Dowagiac, Mich.	" "	"
Heatley, Thos. F.	Gregory, Mich.	" "	"
Henderson, R. G.	St. Johns, Mich.	" "	"
Herring, Harry G.	Calumet, Mich.	" "	"
Hoverter, James W.	Monroe, Mich.	Cleveland-Pulte Med. Coll.	"
Hull, Leroy W.	Detroit, Mich.	Dept. M. & S., U. of M.	"
Jentgen, Charles J.	Tiffin, O.	" "	"
Johnston, R. G.	Kendallville, Ind.	" "	"
Jones, Floyd H.	Ann Arbor, Mich.	" "	"
Lorie, Alvin	Kansas City, Mo.	" "	"
Lowe, Charles R.	Ward, Idaho	" "	"
MacCurdy, John T.	Baltimore, Md.	Johns Hopkins Med. School	"
Moore, Vernor M.	Trimountain, Mich.	Dept. M. & S., U. of M.	"
Morrall, Ralph R.	Niles, O.	" "	"
Needles, Arthur S.	Pueblo, Colo.	" "	"
Olmsted, Bertram, H.	Gwinn, Mich.	" "	"
Pesonen, Axel A.	Hancock, Mich.	" "	"
Post, Dana Cecil	Benton Harbor, Mich.	" "	"
Pugh, Daniel E.	Ann Arbor, Mich.	" "	"
Rohn, Minnie M.	Brighton, Mich.	" "	"
Rowland, Wm. D.	Ann Arbor, Mich.	Homeo. Dept. "	"
Schairer, Wm. W.	Ann Arbor, Mich.	" "	"
Schmidt, Harry B.	Niles, Mich.	Dept. M. & S. "	"
Schoragge, Chas. W.	Ann Arbor, Mich.	" "	"

MICHIGAN REGISTRATIONS—Continued

Name and Address		College	Date
Schwartz, Harold	Three Rivers, Mich.	Dept. M. & S. U. of M.	1911
Seeley, Ward F.	Mayville, Mich.	" "	"
Senseny, Herbert M.	Iron River, Mich.	Johns Hopkins Med. School	1910
Sinkey, Richard E.	Ann Arbor, Mich.	Dept. M. & S., U. of M.	1911
Soule, Glenn T.	Ann Arbor, Mich.	" "	"
Spicer, Frank W.	Crystal Falls, Mich.	" Univ. of Pa.	1908
Tefft, Lloyd E.	Ann Arbor, Mich.	" U. of M.	1911
Thoms, Sharon J.	Holland, Mich.	" "	1898
Toney, Wilmer E.	Ann Arbor, Mich.	" "	1911
Tosch, Theodore A.	Rogers, Mich.	" "	"
Traver, Parry C.	Detroit, Mich.	" "	"
Vermeulen, Peter	Holland, Mich.	" "	"
Verplanke, Grover	Ann Arbor, Mich.	Homeo. Dept. "	"
Vyn, Jay D.	Grand Haven, Mich.	Dept. M. & S. "	"
Weaver, Don D.	Charlotte, Mich.	" "	"
Willey, Gordon F.	Ann Arbor, Mich.	" "	"
Work, Paul B.	Ann Arbor, Mich.	" "	"

ADDITIONAL REGISTRATIONS THROUGH RECIPROCITY

Name and Address		College	Qual. No.
Little, John David	Bridgman, Mich.	Central Med. Coll. Mo., 1897	II with Mo.
George, Chas. H.	Detroit, Mich.	Jefferson Med. Coll., Pa., 1908	I " Ind.
Rouse, David E.	Detroit, Mich.	Ohio Med. Univ., Ohio, 1902	I " N. Dak.
Rowe, Chas. E.	Hubbell, Mich.	Northwestern, Chicago, 1905	I " Ill.
Layson, Zed Clark	Detroit, Mich.	Hosp. Coll. of Med., Ky.,1900	II " Ky.
Young, Robert C.	Detroit, Mich.	McGill Univ., Canada, 1873	II " Ill.
Chambers, Chas. L.	Detroit, Mich.	Dept. M. & S. Univ. M., 1903	I " N. Dak.
Wettstein, John C. R.	Jackson, Mich.	Chicago Coll. M. & S., 1908	I " Ill.
McClain, Wm. A.	Detroit, Mich.	Ohio Med. Coll., 1888	II " Ill.
Hansen, John R.	Trufaut, Mich.	Coll. M. & S., Ill. 1910	I " Ill.
Lamley, Arthur E.	Blissfield, Mich.	Medico-Chirurgical, Pa., 1909	I " W. Va.
Dugdale, Thos. A.	Edwardsburg, Mich.	Indiana Univ. Sch. of Med. '08	I " Ind.
Zeller, Henry R.	Algonac, Mich.	Ohio Med. Univ., 1898	II " Ohio

JOINT SURGERY

Several unusual cases of injuries to joints and their treatment are described by G. W. Guthrie, Wilkes-Barre, Pa. (*Journal A. M. A.*, September 9). The first case was a boy who, from injury with a band-saw, had the right olecranon completely separated with extensive injury to the soft part. Reduction was affected by straightening the arm and securing the detached part in place by driving a cast-steel wire brad into the ulna and applying a straight splint. The surgery was done under rather primitive conditions at the boy's home, but the result was perfect restoration of function. An analogous case of the knee-joint, similarly treated, is also reported. In a woman aged 48 with ankylosis of both knees flexed to an angle of 45 degrees, he operated by straightening the legs by chiseling off about an inch of the femur and in one leg removing the patella. Very good functional results were obtained. The paper is fully illustrated.

NEW AND REINSTATED MEMBERS

JUNE 17 TO SEPTEMBER 23 1911

ALPENA

(N) Bertrain, Otto, Alpena
(R) Dunlop, J. D., Alpena
(N) McDaniel, F. J., Alpena
(N) Komoracke, A., Alpena
(N) Wilson, J. J., Alpena
(R) McKnight, E. E., Alpena
(R) Cameron, E. A., Alpena
(R) Bell, S. T., Alpena
(N) Eakins, James, Alpena
(N) Williams, C. M., Alpena
(N) Smith, Ralph, Harrisville
(N) Henrys, W., Defoe
(R) Bonnerville, A., Alpena

BARRY

(R) Schilling, F. F., Nashville

BAY

(N) Horner, G. E., Crump.

BRANCH

(R) Culver, Bert W., Coldwater

CALHOUN

(R) Pearce, H. R., Battle Creek
(R) Morse, J. F., Ensenada, Porto Rico
(N) Carling, W. M., Battle Creek
(R) Shurtleff, H. A., Marshall

CHARLEVOIX

(N) Sweet, Chas., Charlevoix
(R) Armstrong, R. B., Charlevoix

CHEBOYGAN

(N) MacGregor, A. B., Cheybogan
(R) Reed, W. F., Cheboygan
(R) St. Armour, S. A., Cheboygan
(N) Stringham, J. R., Cheboygan
(R) Stringham, W. R., Cheboygan

GENESEE

(R) Wright, A. G., Fenton
(N) Chandler, M. E., Flint
(N) Cogswell, Bela, Flint
(N) Scott, R. D., Flint

GRAND TRAVERSE

(R) Gauntlett, J. W., Traverse City
(R) Bruce, E. P., Williamsburg

GRATIOT

(R) Street, E. L., Wheeler
(R) DeCamp, E. A., Bannister
(R) Drake, W. M., Breckenridge
(R) Brainard, I. N., Alma
(R) Barstow, W. E., St. Louis
(R) Bagleu, E. A., Alma
(R) Lamb, E. T., Alma
(R) Snydam, J. F., Alma
(R) Hall, B. C., Pompeii
(R) Montfort, Willard, Ithaca.

HOUGHTON

(N) Holmes, J. T., Calumet
(R) Anderson, A. H., South Range

INGHAM

(R) Bailey, O. S., Lansing

LAPEER

(R) Burley, J. H., Almont

LENAWEE

(R) Treat, D. L., Adrian
(R) Wilcox, A. E., Clayton

MARQUETTE

(R) Burke, R. A., Ishpeming

MACOMB

(R) Scott, F. A., Washington
(N) Wolfson, V. H., Mt. Clemens

MANISTEE

(R) Ramsdell, L. S., Manistee

MUSKEGON

(N) Brocke, Alfred, Muskegon

MONROE

(N) Kelley, H. E., Ida
(N) McCall, James H., Carleton

O. M., C. O., R. O.

(R) Cornell, G. L., Lewiston

ONTONAGON

(R) Cornell, H. D., Victoria

SAGINAW

(R) Kanzler, Karl, Saginaw
(R) Rogers, A. S., Saginaw
(R) Dibble, Healthy, Saginaw

WASHTENAW

(N) Burr, Thos.S., Lewisport, N. F.
(R) Plummer, R. C., Ann Arbor
(R) Lombard, W. P., Ann Arbor

WAYNE

(R) Applebe, Wm., 57 W. Fort St.
(R) Fischer, O. E., 507 Field Ave.
(R) Honor, W. H., Wyandotte
(R) Young, R. K., 603 14th Ave.
(R) Lane, W. P., 24 Bank Chamb's
(R) Loranger, P. J., 383 Canton
(N) McCann, J. H., 1905 Mich. Ave.
(N) McClellan, R. J., 91 Grand River Ave.
(R) Merritt, E. D., 409 Wash. Arc.
(N) Meade, C. W., Loyal Guard Bldg.
(N) Kahl, W. N., 637 Mt. Elliott Ave.
(N) Gottman, C. A., 1356 Mich. Ave.
(N) Toepel, O. T., 466 Jas. Campau
(N) Lawton, T. M., 669 Turnbell

THE FALLACY OF WARMED ETHER VAPOR

In order to test the value of warming anesthetics during administration, M. G. Seelig, St. Louis (*Interstate Medical Journal*, September), carried out several experiments. An ordinary laboratory wash bottle was filled about half full with ether. By means of a rubber tube the outlet flow was carried to a lead pipe one meter long with one-half centimeter lumen coiled up as a "worm." This lead worm was immersed in a beaker of boiling water. Fixed on the distal end of the lead coil was a thick-walled rubber tube one meter long with small slits cut 10, 40 and 60 cm. from the end of the coil. Ether vapor was pumped through the coil by a bulb attached to the inlet tube of the flask, and its temperature measured at the various distances from the heated coil by a thermometer whose bulb projected into the rubber tube through the above mentioned slits. The experiment was carried on at room temperature, 26.5° C. The ether vapor, as it emerged from the end of the tube, one meter from the site of heating measured from 26.9° C. to 28° C., depending on the rapidity of flow. Sixty cm. from the coil it measured 28.9° C. At a point 10 cm. from the coil it measured 30° C. In other words, despite the fact that the ether vapor was driven through a temperature approximating 100° C., it radiated its acquired heat so rapidly that at a distance of one meter from the source of heat it had practically assumed room temperature. Conversely the writer was able to show that chilled vapor likewise rapidly assumed room temperature. Finally a dog was tracheotomized and a thermometer inserted through the tracheal wound to the bronchial bifurcation. Administration of ether on a mask, even in large quantities, caused not the least variation in the reading of the thermometer. These results, says Seelig, are the only ones to be expected if one keeps in mind the laws of the physics of gases, especially the fact that gases take and lose heat very rapidly. So there is no need to devise special warming apparatus for our anesthetizing vapors.

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ORIGINAL ARTICLES

THE PRACTICAL DIAGNOSIS OF UNCOMPLICATED ULCER OF THE STOMACH*

JAMES TAFT PILCHER, M. D.
Brooklyn, N. Y.

Ulcer of the stomach in a majority of instances is the result of several factors, rather than of any single one. The first and the earliest recognized element in the production of such ulcers is the hydrochloric acid content of the gastric juice. The generally accepted statement that hyperacidity is present in ninety per cent of the cases is, however, open to question.

There is much evidence pointing to the conclusion that hyperacidity is a resultant phenomenon, rather than a causative factor. The statistics of ulcer of the stomach heretofore compiled have been gathered chiefly from clinical diagnoses and post mortem examinations, and not from cases still living upon whom operative demonstration has been made.

While some value should be given these older statistics, the fact that during the past few years it has been clearly demonstrated beyond question that extragastric pathologic conditions may and often do give rise to symptoms so closely simulating those of a gastric ulcer that it has been impossible to differentiate them clinically, suggests the criticism that in the long list of cases given by some authors there have been included many instances of appendical or gall bladder disturbances whose atypical symptomatology has occasioned confusion.

The fact that of all ulcers of the stomach nine-tenths exist in the pyloric region, leads to the conclusion that traumatism is an important factor, since it is here that the propulsive and grinding properties of the stomach are chiefly exerted. This conclusion that direct physical, in conjunction with chemical action, is a potent factor is further strengthened by the position and frequency of occurrence of duodenal ulcer. Ninety per cent of duodenal ulcers are within two inches of the pylorus, and the very great majority of them are on the superior and anterior wall which is the first portion to receive the forceful impact of the acid chyme as

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

it is ejected through the pylorus. Further factors which may excite the ulcerative process are such conditions as infection, diminished nervous tone, embolism and thrombosis, etc. Though each has received some degree of pathologic confirmation, their very multiplicity indicates that the explanation is inadequate, except in some few instances. Possibly the best suggestion is that of Mayo that the *essential* factor is of a general non-determined character, which may be termed lack of local resistance, and which is the result of some nutritional disturbance possibly in the nervous, circulatory, or glandular economy.

SYMPTOMATOLOGY

Granting, however, that the ulcer is present, how may it be recognized clinically and with reasonable certainty?

Uncomplicated ulcer of the stomach in its most frequent situation, in the neighborhood of the pylorus and on the lower limits of the lesser curvature, presents a symptom-complex, peculiarly characteristic —one, indeed, that is scarcely approached in its definiteness by any other intra-abdominal condition. The cardinal factors of this symptom-complex are, (1) chronicity, (2) periodicity, and (3) pain, peculiar in the time of its occurrence, regularity, and the method of its relief.

The following observations are based upon the study of fifty consecutive cases of ulcer of the stomach occurring in the practice of Doctors William J., and Charles H. Mayo, of Rochester, Minnesota. In all of these cases the clinical diagnosis was confirmed by an operation.

CHRONICITY

The average duration of the symptoms in this series of cases before surgical relief was sought was ten years. The average age at the time of operation being forty-five, for males forty-seven, for females forty-one. This reduces the age at which ulcer of the stomach occurs to thirty-five, which is then the period at which its inception should be tabulated.

PERIODICITY

In seventy per cent of the cases the patients remarked that their complaints came in definite attacks, lasting from one to four weeks, as an average, and that in the interval practically no discomfort was experienced. The seasonal influence of the remissions is noteworthy, the spring and fall being the times of the year in which they were accustomed to anticipate a renewal of their stomach distress. This constantly recurring cycle of trouble with its interval of health, when taken in conjunction with the accompanying symptoms, is quite pathognomonic of ulcer of the gastric outlet, and is so characteristic that on it alone one may with moderate certainty offer a tentative diagnosis.

Seventy-two per cent of the cases were males and twenty-eight per cent females. This corresponds exactly with the findings of Seymour Taylor in his collection of one hundred cases. Mayo in analyzing several hundred operated cases, places the average for men well over fifty per cent also. This is in direct contradiction to the statistics of Welch and Fenwick, Brinton, Boas, etc., much of whose material was post mortem, and to the opinions of most every observer that has made the diagnosis from the clinical history only.

The fancied cures obtained by various means are, it would seem, rather mythical, the subsidence of symptoms being but further evidence that the disease persists, only to renew its course at a later date, leading as it has done in so many instances to chronic invalidism, and allowing the sufferer to carry the potential factor for the subsequent development of carcinoma, which relation has been so

positively demonstrated as to allow it no longer to stand on a hypothetical basis.

PAIN

The most important symptom, and that from which we are led to form our most definite conclusions, is the pain complained of. It is probably the most constant symptom, and of the manifestations of ulcer the most characteristic. Its particular site in the upper abdomen, and its character are not so relevant to a diagnosis, as is the *time of its occurrence*, each individual having his or her own schedule, which does not change. The time of its occurrence after the taking of food may give us a clew as to the location of the ulcer, the farther away from the pylorus the earlier its onset, but this does not always hold good. It is the *regularity* and *precision* of its return after eating that is of importance. There is never the capriciousness noticed which characterizes the distress reflexly produced from appendicitis or gall bladder involvement. Its onset is *definite* and it recurs *regularly*, usually about two hours after meals; although it may occur earlier or later. One of the latest text books follows those of the older school in reiterating the statement in italics that the pain occurs "generally a few minutes after eating." This occurred in but three instances in this series; one a case of pyloric obstruction, another of an ulcer of the entire lesser curvature; the third of an uncomplicated ulcer of the pylorus.

No less striking is the phenomena of its complete relief. This is accompanied in the very great majority of cases by the ingestion of more food or alkalies, the remaining few obtain temporary relief by vomiting. Belching of sour, acrid gas was complained of by at least sixty-five per cent of the patients, and served to ameliorate the distress to some degree at times.

Vomiting occurred in eighty-six per cent of this series, accompanied by large amounts of blood in twenty-two instances, or forty-four per cent. It was also noted in the stool subsequently in but six cases, or twelve per cent.

The value of analysis of the gastric contents after a test meal in ulcer of the stomach has been greatly exaggerated heretofore, as we have been unable to determine any constituent or group of constituents in it which are in any way pathognomonic. There are, however, several points which may be noted as suggestive of this condition.

The former teachings that hyperacidity is present in over ninety per cent of the cases, and that in these same statistics the pain occurs within a few minutes after eating, practically confirms us in the conclusion that many of these may not have been instances of gastric ulcer, but more probably of hypersensitiveness of the mucosa reflexly produced from some extra-gastric lesion, possibly accompanied by a moderate degree of gastritis. In any event, these statements have not been confirmed by operation, and must be viewed with considerable skepticism in our present day insistance that clinical diagnoses must have countenance lent them by absolute pathologic evidence.

The average total acidity in this series was fifty-six, and that of the free hydrochloric acid content forty-one, both of which are within normal limits. A majority of the cases gave not only clinical symptoms of a hypersecretion of the gastric juices, but also objective evidence of an increased quantity in their test meals. This, however, contained no quantitative increase in the hydrochloric acid, forming, therefore, a combination very suggestive in the differentiation of ulcer of the stomach from that of the duodenum, since in the latter hypersecretion is accompanied by

a definite hyperacidity, found by the author to be present in one hundred consecutive cases examined by him, in all of which ulcer of the duodenum was later demonstrated at operation. In this series of cases the total acidity averaged seventy-seven.

Grossly considered, there is one point which thus far has proven pathognomonic when present; that is the appearance of a dirty or muddy extract. This is further emphasized by the occurrence of black streaks throughout the bread suspension. This phenomenon has been noticed in but sixteen per cent of the cases considered, but has never been observed in any other condition, except carcinomatous involvement, and seems, therefore, to give us very suggestive evidence of some ulcerative process of the stomach mucosa.

Statements have been repeatedly made that in ulcer of the stomach mucus is absent. This is erroneous, as it is almost universally present, which contention is confirmed by the observation of the mucosa in over one hundred and fifty cases at operation in which ulceration of the stomach has been demonstrated, whether alone, or in conjunction with carcinoma.

145 Gates Avenue.

Discussion.

C. D. Aaron, Detroit.—This paper of Dr. Pilcher, recommending the verification of the diagnosis by operation, is timely and suggestive. I have only a few suggestions. First, the doctor said nothing about the character of pain that we see in gastric ulcer as determining its location and character. The pain is peculiar. It is boiling, gnawing, an aching and exciting sensation. It is never colicky, and it seems never unendurable. It is worst after meals, which we call "'food distress;" and when we find that the pain is relieved for an hour or an hour and a half after eating, we call that "food relief;" and when the food relieves pain for two hours or longer, and this pain or this relief is followed with a gnawing sensation, or, as we might say, a sort of hunger pain, we know then, or we suspect that the ulcer is in the duodenum. Therefore, what the doctor said as to the definite time of relief and the definite time of the pain that food or alkali will give, is important in the diagnosis.

One imoprtant objective measure in making a diagnosis of ulcer of the stomach is the finding of occult blood in the feces when the patient has been placed on a meat diet. Occult blood in the feces, with symptoms of vomiting, pain, and persistent sour stomach, is very suggestive. I have found, recently, the use of Einhorn's thread test very valuable in making the diagnosis. Einhorn's thread test consists in the taking of a white braided silk thread to which is attached a small duodenum bucket. There is a knot about seventy-five centimeters from the duodenum bucket, and a loop attached to the end of the thread so that this knot will not go down any further than the incisor teeth. The patient is given this small duodenun bucket, preferably at night. From two to eight hours after the patient has taken this bucket it will enter the duodenum. The bucket is removed and you look along the white thread for stain. This stain is either brown or red. If we find a stain 39 to 43 centimeters from this knot the ulcer is located in the cardia; should we find a stain from 45 to 50 centimeters from the knot, the ulcer is in the body of the stomach. Should the stain be found 53 to 56 centimeters from the knot the ulcer is in the pylorus; should it be from 60 to 65 centimeters the ulcer is in the duodenum. Now, for the blood we can make the same examination of the stain on the thread that we do for occult blood in the feces. In other words, we can make the Tenter test or Lawson test on the thread, which tells us that blood is present. I have not only found this thread valuable in making the diagnosis, but I have found it valuable in telling us whether the ulcer is old or not, which is an important point, for if you have based the operation on an old ulcer, and then give them the Einhorn's thread test, you will find there will be no stain on the white thread.

(*Discussion Continued in December Number.*)

CYSTS OF GAERTNER'S DUCT*

CONRAD GEORG, JR., M. D.
Ann Arbor, Mich.

Cysts of Gaertner's duct have been reported at various times during the last thirty years. They are interesting on account of the rarity of their development. Cysts of the vagina, according to Fritsch, occur in about one per cent of the cases examined. Graefe saw nearly twenty cases in one year and Von Preuschen found six cases in thirty-six cadavers which he examined.

Cysts of Gaertner's ducts are not so common as vaginal cysts. Robert Watts, in 1881, reported a case of cyst of the anterior vaginal wall developed from Gaertner's duct. Graefe, in 1882, reported two cases which were probably cysts of Gaertner's duct and in one case there were two cysts developed in Gaertner's and one in Mueller's duct.

Warren, in 1883, reported a case of cyst of the anterior vaginal wall which had been mistaken for a cystocele but proved to be a cyst of Gaertner's duct. Baumgarten, in 1887, reported four cases which he regarded as cysts of Gaertner's duct. Johnston, in the same year, reported a case of cyst of the vaginal portion of the right Gaertner's duct. Cullen, in 1905, reported eleven cases of cysts of Gaertner's duct out of fifty-three cases of vaginal cysts that had been treated at the Johns Hopkins Hospital from 1893 to January 1st, 1904. Hardouin of Paris reported two cases in 1910. Numerous other cases have also been reported in medical literature.

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

Gaertner's duct was first mentioned by Malpighi in 1681 who discovered it in the uterus of the cow. In 1822 Gaertner described these ducts again and they have since been called Gaertner's ducts. They are quite large in the cow and Bland-Sutton has reported a case of two cysts of one of them in that animal.

An illustration of this specimen is shown in Figure I. Chevan, in 1859, described these ducts in the cow as mucous ducts which open beside the urinary meatus and extend upwards in the lateral walls of the vagina to a point about six to eight centimeters beyond the cervix.

Rieder, in 1884, was the first to point out that the Wolffian duct may persist in the adult woman and, in his opinion, it occurred in every third case.

He described the duct as an epithelial tube, surrounded by a muscular coat, in about one-fifth of the cases, or a muscle bundle without epithelium, in about one-sixth of the cases. The duct is generally lined by a double row of cylindrical epithelium although in some cases it is limited to a single row.

The Wolffian duct continues down through the broad ligament along the side of, or in the substance of, the uterus. Then it enters the antero-lateral wall of the vagina in its muscular layer just beneath the mucous membrane and continuing downwards in the vagina it opens near the urinary meatus. It is this portion of the Wolffian duct which is called Gaertner's duct. This duct generally disappears in

the adult, or, if present, will be found only in fragments. Klein says: "In spite of their great rarity it has been established that the debris of the Wolffian ducts can be found the whole length of the vaginal wall, persisting as far as the hymen."

Figure II is an illustration of the formation of the uterus, the tubes and the vagina, and the relation of the Wolffian and Gaertner's ducts to the broad ligament, uterus and the vagina. This illustration is taken from Cullen's article on "Vaginal Cysts" in the Bulletin of the Johns Hopkins Hospital in 1905. It shows undergo cystic dilatation as the result of the accumulation and retention of secretion. Cysts may also arise from fetal remains of a small portion of the epithelium lining the duct. These cysts vary in size, and may be as small as six millimeters in diameter or as large as several centimeters.

These cysts are covered with vaginal mucous membrane which is often atrophic over the region of the greatest distention. Cullen has reported a case where there was a small stem leading off from the main cyst, undoubtedly due to the fact

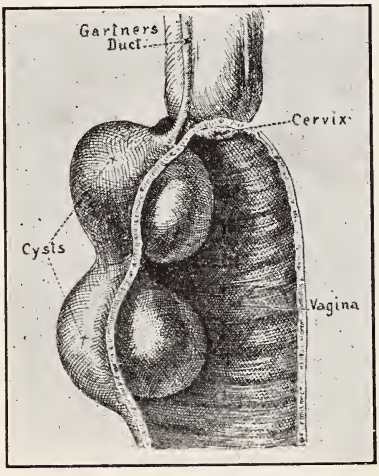


Fig. I—Vaginal Cysts in a Cow; due to dilatations of Gaertner's Duct.—Cullen.
Passing down the outer side of the cervix are Gaertner's Ducts. The duct on the left shows two distinct dilatations in the vagina, producing typical vaginal cysts. (Re-drawn after Bland-Sutton. Published by Keener & Co., Chicago, 1903.)

clearly how the outer portion of Mueller's ducts form the Fallopian tubes and the middle portions form the uterus and vagina. Gaertner's ducts are shown as passing down through the broad ligament into the uterus and vagina as a continuation of the Wolffian ducts.

In Figure III, taken from the same article, we have a cross-section of the uterus in a human embryo at the end of the third month. It shows a cross-section of Gaertner's duct in each side of the uterus. If these ducts persist in the adult as a whole, or in fragments, they may that this portion had not yet yielded to the dilatation as much as the remainder. Veit found that these ducts become dilated in places, the points of dilatation being separated from one another by ring-like constrictions, and the cysts occur in these distended portions of the ducts. Debierre has noted similar constrictions along Gaertner's ducts which he compared to a string of beads lying in the vaginal wall.

The walls of the cyst consist of connective tissue with a few non-striped muscle tissue fibers. The inner surface of the cyst is usually lined by a single layer of

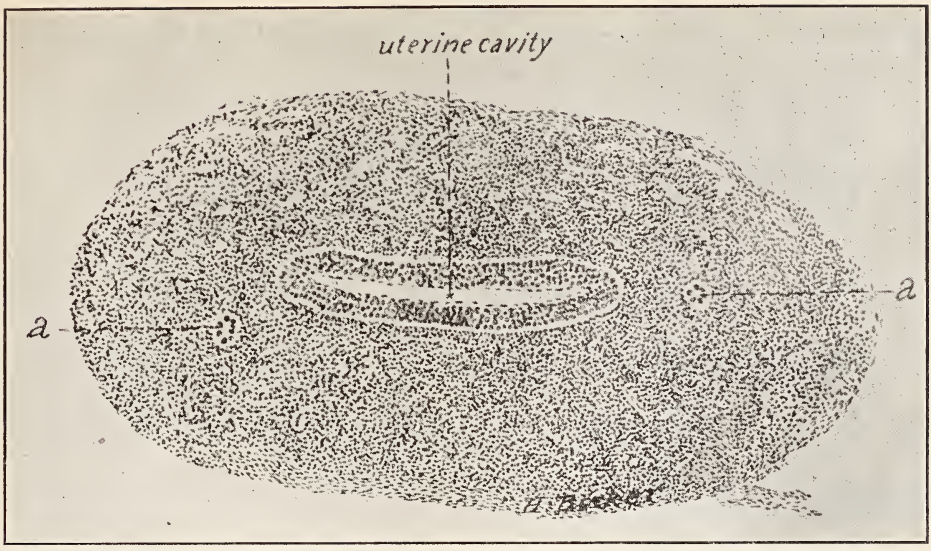


Fig. III—A cross section of the uterus near the cervix, showing Gaertner's Duct on each side of the uterine cavity (Fetus at the end of third month).—Cullen.

cylindrical, cuboidal, or almost flat epithelium. Sometimes spontaneous rupture will take place in these cysts when they may disappear or refill again or leave a fistula. Patients have died from infection of these cysts. The contents of the

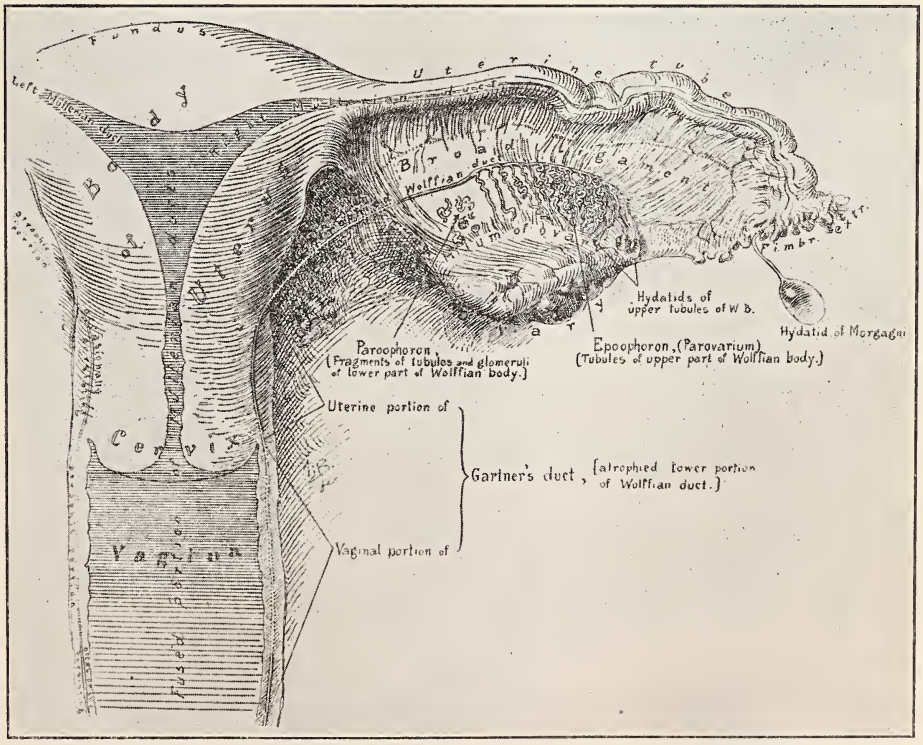


Fig. II—A schematic illustration of the formation of the uterus, the tubes, and the vagina, and of the relation o the Wolffin and Gaertner's Ducts to the broad ligament, uterus and vagina.—(Cullen).

cysts are generally a straw colored fluid, except that if there has been hemorrhage into the cavity it is chocolate colored.

Cysts of Gaertner's duct are generally conical or egg shaped, because the vaginal mucosa is separate from the cyst wall and is not attached to it, thus allowing the cyst itself to push it out as it enlarges in size. These cysts generally collapse on pressure because their fluid contents are forced up into the canal, but this will not take place if the duct has been closed off. The sac refills as the pressure is removed. Cysts of the anterior wall of the vagina must be distinguished from sub-urethral abscess and cystocele, a mistake which has sometimes been made. The mucosa covering the cyst is generally smooth and shining while it is wrinkled over a cystocele. In sub-urethral abscess pressure over the swelling will cause pain and pus will escape from the urethra. There will also be constitutional symptoms present.

Cysts of Gaertner's duct scarcely ever give rise to any symptoms and are usually not discovered unless a thorough vaginal examination is made on account of some other condition. They are of very slow growth but if they attain considerable size they may cause difficulty in locomotion or obstruction to labor. They may be in the anterior, posterior or lateral walls of the vagina.

The treatment consists in excision of the cyst wall after the evacuation of the contents and suturing the edge of the mucous membrane lining the cyst to the vaginal mucous membrane. This is the so-called Schroeder operation. By this method the sac is turned into the vagina and its cavity soon flattens out and disappears.

The report of a private case which the writer operated upon recently will perhaps be of some interest in connection with this paper.

The patient, Mrs. L. L., presented herself for treatment April 1, 1911. She is a widow and has one child, a girl five years old. Patient was healthy as a child. Her father is living and healthy at the age of 72. Her mother died from apoplexy. The family history is negative as regards any tendency to tumors. Menstruation started at the age of 15, is always regular without pain and lasts two or three days. She complains of a dribbling of urine which she has had all her life. It was somewhat worse after her baby was born. Her labor was normal in character and duration. Dilatation of the urethra with cold sounds has considerably lessened the frequency of micturition. Upon vaginal examination I found a cyst in the right posterior portion of the cervix. This cyst was about the size of a hen's egg and gave rise to no symptoms as the patient was not aware of its presence previous to the examination. The contents of the cyst could not be forced out under pressure. Patient also had a slight cystocele and rectocele.

April 18, 1911, she entered a private hospital for operation. On entrance it was discovered that she had an acute coryza, the operation was, therefore, postponed until April 20, 1911, when the uterus was dilated and curetted and a portion of the cervix removed for pathological examination but it proved not to be malignant. The cyst was found to extend up into the broad ligament as far as the horn of the uterus. It was, therefore, formed by a persistence and dilatation of the entire uterine portion of Gaertner's duct. Upon opening the cyst, it was found to contain a yellowish fluid and the entire sac was exised. The patient made a good recovery and there is no trace of the cyst at the present time. The dribbling of urine has also disappeared..

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Discussion

Chairman Smith, Grand Rapids.—This paper is so clearly put that I think some of you ought to get up and discuss it. However, of course, it belongs to a rare variety of cases, and one which a man very seldom sees. In my experience I have seen no cases—that is, in my own personal clinic, but I have seen one in New York in a clinic, and I think I saw one abroad—just enough to remind me of the possibility of such an occurrence. The question, however has come up on one or two occasions where we have found were the ordinary vaginal cysts, which are so much more frequent. I have had an invagination which affords a most interesting specimen showing an anomaly of this duct. The Wolffian duct as it goes into the cervix, which is shown here in the third month, usually loops; I don't know as it always does. My impression was that it always made a small loop backward and then came out. I know it does in some cases. In this specimen of mine, off from this duct there are numerous canals leading off and honeycombing the whole crevix. Now when the case was reported upon clinically, the cervix was almost like a sponge, due to the ramifications of these ducts leading off, evidently from the old Wolffian duct. The question was: What did these represent? and if one goes back into the embryology, remember that that Wolffian duct corresponds in the male to the seminal vesicles. In other words, that would be the same as in the male would correspond to the seminal vesicles. It is a rare thing, but one or two such cases have been reported.

Secretary Parmeter, Detroit.—I never have seen an actual case. Two specimens I have seen in a collecton of Gaertner's ducts. Gaertner's duct, as it leaves the broad ligament, does not always enter the uterus low down as shown in the cut. It may come into the uterus higher or might escape the uterus and enter the walls of the vagina even lower. The question arises: This duct being lined with epithelial cells, could carcinoma arise here? It does, occasionally, in fibroid uteri in which Gaertner's duct has passed through the side. Carcinoma can develop from these cells, as occasionally you will see reported fibroid uteri with carcinomatous adenoma. This is the place oftentimes from which it arises.

Conrad Georg, Jr., closing: I might say that in the case operated upon it seemed to me that the duct entered the uterus at a higher point, because the cyst extended pretty will up into the broad ligament. It seemed to extend up as far as the coronary of the uterus, indicating that the diagram would not hold for all cases. Of course this diagram deviates. This diagram I took from the pelvis of a case at Johns Hopkins Hospital, but I think in the case indicated the duct entered the uterus in a higher point.

THE RELATION OF PREMATURE RUPTURE OF THE AMNIOTIC SAC TO PUERPERAL SEPSIS*

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The prevention of puerperal sepsis is a problem that has for many years called forth a great deal of discussion. Holmes (1), in 1843, and Semmelweiss, (2), in 1846, by their recognition of the contagiousness of puerperal sepsis, introduced an era of advancement such as had never before been witnessed by the medical world. This was pioneer work and it remained but for others to follow and lift it to its present high state of development.

In recent years the interest in the prophylaxis of puerperal sepsis has been somewhat on the decline. This is probably due to several conditions. The introduction of antisepsis and asepsis into obstetrics has opened up so many other fields of clinical investigation that one has hardly time to consider any but fundamentals in this line. Placenta previa, contracted pelves, toxemias of pregnancy, operative obstetrics,—the investigation of all of these has been made possible by the aseptic era in obstetrics.

Furthermore, we seem to assume that the question of prophylaxis of puerperal sepsis has been completely solved, and, like other solved problems, needs no further consideration. We think that all we need to do is to keep our hands clean and that then our patients will not have sepsis. But that there are other problems to be considered is shown by the fact that occasionally we will see a case of puerperal sepsis in spite of rigid aseptic precautions. We have probably all seen or heard of authentic cases of sepsis where the obstetrician had not made a single vaginal examination. Usually we look upon such cases as autoinfections, and do not attempt to explain the occurrence of the sepsis. The fact that an obstetrician with a good aseptic conscience will occasionally have a case of sepsis proves that there is still room for investigation. The object of this paper, however, is not to consider puerperal sepsis in general, but to discuss any possible etiologic relation that may exist between a premature rupture of the membranes and a subsequent puerperal sepsis.

The amniotic sac consists of two layers, an inner thin layer, the amnion, and an outer thick layer, the chorion. These are fused together and make up the structure known as the "membranes." During normal pregnancy this, with the placenta, forms a closed sac, and contains the amniotic fluid which surrounds the fœtus. The cervical canal is normally closed by the "plug of mucus."

The amniotic fluid is a protection for the fœtus, and, during labor, is the media for the transmission of the expelling forces which cause dilatation of the cervix. The elastic bag fits well into the

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

cervix and the lower uterine segment and makes it an admirable dilator for the soft parts. After the cervix is dilated the amniotic sac is of little use, and usually ruptures. Any rupture that occurs before the cervix is dilated is, strictly speaking, a premature rupture. However, in the present discussion we will have reference only to such cases where the rupture occurs before beginning of labor, or very early in labor before dilatation of the cervix. In these cases we have to deal with so-called dry labor.

Obstetricians have never expressed definite opinions as to any relation a premature rupture might bear to a subsequent puerperal sepsis. A rather hasty review of the recent work fails to show any definite statement. Hirst (3), Davis (4), Jellett (5), Moran (6), Lewis (16), Williams (7), Edgar (8), Galabin and Blackner (9), and others dismiss the subject without a word as to any relation between premature rupture of the membranes and puerperal sepsis. It is quite safe to assume that the neglect to mention the relationship does not mean that such is not recognized. Indirect communication with certain of these authorities shows that some relation between the two is believed to exist. However, not much importance is attached to this connection and no attempts at prophylaxis are usually made.

Meyer-Ruegg (10), reviews twelve cases in which several months elapsed between the rupture of the membranes and the birth of the child. It is rare for pregnancy to continue after rupture of the membranes, but these, without a doubt, are authentic cases. In speaking of sepsis he states that the danger of infection is very slight, if it exists at all.

Demelin (11), found in a series of 4000 deliveries that the membranes ruptured prematurely in nearly 10 per cent of the cases, and if this occurred twenty-four to forty-eight hours before delivery, the morbidity was definitely increased. If the rupture took place two to five days before delivery, infection occurred in no less than 11 per cent of the cases.

Peterson (12), has called attention to and emphasized the fact that a premature rupture of the amniotic sac may predispose to a subsequent puerperal infection.

Routh (13), in his recent article on Cesarean section, gives some very interesting statistics. In his studies of mortalities following this operation he has found a great difference in percentage mortality between "clean" and "infected" cases. Among the "infected" cases he classifies cases where attempts at delivery per vaginum and many vaginal examinations had been made prior to the Cesarean section. Besides the "clean" and "infected" cases he classifies another group as "suspect" cases. These "suspect" cases differ from the "clean" cases in the fact that the membranes have ruptured. According to Routh's statistics the mortality of Cesarean section performed after the membranes have ruptured is 10.8 per cent compared wih 2.9 per cent in similar cases but with the membranes intact. A consideration of such reports must bring us to the conclusion that an early rupture of the membranes does in some way predispose to infection.

As a basis for this discussion a careful study has been made of the last 300 patients confined in the obstetric clinic of Professor Peterson at the University of Michigan Hospital. Careful notes are kept concerning the convalescence of patients, as well as careful temperature records. A staff of specialists in the various departments of the hospital is always available for consultation in doubtful cases. It is not always easy to differentiate between a slight rise in temperature due to puer-

peral sepsis and a similar rise in temperature due to other causes. Whenever the temperature reached 101°, it was considered an evidence of puerperal sepsis unless some other definite cause for the rise in temperature was discovered. In most of the "mild" cases the rise in temperature and pulse was the only evidence of sepsis, and if these had occurred in practice and a careful temperature record had not been kept they would probably not have been classed as septic cases. Practically all the patients were illegitimately pregnant and a large per cent had venereal diseases. After careful scrutiny the results were found as they are herein stated.

Among 300 confinements premature rupture of the membranes occurred 38 times, or about in twelve per cent of all the cases. The longest interval between the rupture of the sac and the beginning of labor was 96 hours. In many cases the pains began immediately after the rupture. The labors in these 38 cases were not excessively long; in fact, hardly the average when we consider that nearly all the patients were primiparae.

In 262 cases the membranes ruptured normally. Among these there were five cases of puerperal sepsis, a percentage of one and nine tenths. In four of these the sepsis was mild while in one it was severe. Therefore, in the cases where the membranes were intact during the greater part of the first stage, there was a mild sepsis in 1.5 per cent of all cases, and a severe sepsis in 0.4 per cent of all cases.

Among the 38 cases in which the membranes ruptured prematurely there were 8 cases of puerperal sepsis, a percentage of 21. In three of these eight patients the sepsis was severe, while it was mild in five cases. Stated in percentages, it would mean that of the 38 patients in which the membranes ruptured prematurely, 8 per cent had a severe sepsis, and 13 per cent had a mild puerperal infection.

The mortality in the 300 cases was nil, all the patients recovering. One patient was lost sight of, however, before complete recovery and the subsequent history is unknown.

One is impressed with the difference in the morbidity of the two classes of patients. As the method of treatment was the same in both classes of patients and the cases were all scrutinized from the same viewpoint, one feels that the comparison must be a fair one. It means that puerperal sepsis occurs fully ten times as frequently after premature rupture as it does after normal rupture of the membranes. It would hardly seem that this was merely a coincidence. The comparisons, tabulated would be as follows:

	Number of Cases of Sepsis	Mild Sepsis	Severe Sepsis
Premature Rupture of Membranes.....	8	5	3
38 cases.....	21 per ct.	13 per ct.	8 per ct.
Normal Rupture of Membranes.....	5	4	1
262 cases.....	1.9 per ct.	1.5 per ct.	0.4 per ct

It is seen from the table above that mild sepsis occurred eight times as frequently after premature rupture as after normal rupture. As previously mentioned, the only indication of sepsis in these "mild" cases was the rise of temperature and pulse, which could not be attributed to any other cause. These patients did not feel sick, and the sepsis did not necessitate a longer stay in the hospital than was required for patients with a normal puerperium.

Severe sepsis occurred about twenty times as often in the cases where the membranes ruptured early as in the cases with normal rupture. These were grave cases of infection and the patients were seriously sick for many weeks.

Why a premature rupture of the membranes should predispose to a subsequent

sepsis has not been positively determined. A dry labor is usually more difficult, and, as the presenting part is not a good dilator, the soft tissues may tear rather than stretch. Thus excessive obstetric trauma may predispose to sepsis. It is also possible that a premature rupture might in some cases be directly due to an existing infection. A sepsis following the confinement might be credited to the premature rupture while, in reality, the early rupture was the result of infection, and not the cause. But we know from microscopic examination of the secundines that premature rupture may often occur with apparently healthy membranes.

The bacteriologic content of the vagina during pregnancy has been the subject of considerable investigation. The results obtained have been so at variance that they complicate rather than elucidate the subject. Williams (7) considers that the normal vaginal secretion during pregnancy is free from pathogenic germs, and for that reason looks upon "auto infection" as an impossibility. Döderlein and Bumm find streptococci and staphylococci in the normal vaginal secretion of some pregnant patients. Williams considers that the finding of these bacteria is due to an error in technic resulting in contamination. On the other hand, Döderlein (14), and Bumm (15), claim that the bacteria can be demonstrated if the proper culture media is used. Equally variable are the results when the flora of the normal puerperal uterus have been investigated. Very little is known concerning the bacteriology of the vagina during labor, and we have no knowledge concerning the bacteriology of the amniotic sac after the rupture of the membranes. Practically all investigators agree that the vulva is very frequently the abode of pathogenic streptococci and staphylococci.

The question as to the presence or absence of pathogenic bacteria in the vagina might alter our ideas as to how an infection takes place. Yet it should not affect it radically. Granted, for sake of argument, that the normal vaginal secretion is free from pathogenic germs. After one vaginal examination this condition might be changed. If the criticism of Williams concerning the finding of pathogenic bacteria in the vaginal secretion by Döderlein and Bumm is correct, and if it is so difficult to prevent contamination even when the vagina is opened widely by means of a sterile speculum, then we can readily assume that the vagina will be contaminated with vulval bacteria after making the first vaginal examination. No one has as yet been able to sterilize the vulva absolutely. Whether or not the vagina is normally free from pathogenic bacteria, it surely is contaminated with vulval bacteria after a vaginal examination has been made.

During normal pregnancy the uterine cavity is securely protected from the outside world by the "plug of mucus." This probably prevents infection from going up not only because of the mechanical barrier it forms, but because of the presence of phagocytes which may actually destroy the invading organisms and prevent infection of the amniotic cavity. The open canal which is present following the rupture of the membranes would expose the amniotic cavity to an infection that might exist in, or have found entrance into, the vagina. Nature's efficient barrier would be lost.

If the vagina were free from pathogenic germs there would be very little likelihood of a puerperal infection developing. The truth of the matter is that the vagina often does contain pathogenic bacteria, and most likely they are the result of contamination from the vaginal examinations. The importance of having our hands clean has been impressed upon us so strongly that

we feel that this is about all that is necessary, and we are quite fearless about making these examinations. This is especially so since in most cases we do so with apparently no untoward results. When the membranes are intact any vulval infection we may introduce does not go up any higher than the cervix, but if the amniotic cavity be open it can be easily infected. If enough time elapses before the emptying of the uterus the infection of the membranes will extend to the decidua and into the sinuses before the contraction of the uterus effectually closes the channels for further extension. It would seem that although vaginal examinations can be made with comparative safety in a normal labor, the examination conducted with the same care and precaution becomes more perilous in case the membranes have ruptured prematurely. The vulva is the most likely source of infection in these cases, and we cannot absolutely sterilize these parts. The wearing of sterilized gloves does not insure against this infection. The question of the bacteriology of the vagina is of little importance if one makes vaginal examinations on these patients. In either case the examining finger in the os carries up whatever infection is found in the vulva. The first examination thus made is sufficient to plant the contamination in the vagina. Fortunately, every vulva does not harbor these pathogenic organisms and therefore not every patient is infected. The open uterine cavity with the absence of the mucus plug, together with contamination from the vulva carried up by the examining finger, seems to be the most important factor in the production of sepsis after the premature rupture of the membranes.

During the puerperium the birth canal is open, and if the above explanation is correct, one might wonder why infection did not pass upward in all cases after delivery. We know that streptococci have been obtained (if not there, they must have been introduced at the time), from the vagina and even from the uterine cavity of patients who were having an afebrile puerperium. In these cases the organisms find no opportunity to enter the uterine sinues because of the contraction of the uterus which closes them effectually. While the child is in the uterus the sinuses are open and an infection of the membranes more readily finds a path of extension.

In dealing with these patients all that we can hope to accomplish is to keep infection from entering the vagina. After the accident occurs we should prevent the patient from infecting herself. This should be done by removing the source of infection as thoroughly as possible. The vulva should be shaved, scrubbed, disinfected, and protected from contamination of the clothing by the use of a sterilized pad. The patient should be cautioned about touching her vulva and extreme care should be exercised when the patient is at stool. In a hospital the common stool should not be used, but a disinfected bedpan substituted. Vaginal examinations should be omitted, always remembering that we cannot sterilize the vulva, and that a vaginal examination means the introduction into the vagina and cervix of whatever infection there may be on the vulva. If examinations are necessary they should be made per rectum. It requires a little experience to recognize the parts per rectum, but with a little practice it becomes a very satisfactory way of making examinations, and it reduces the chances of introducing infection to a minimum. Krönig, with the object of reducing the risk of infection, has recently advocated the routine adoption of rectal

examination, and claims to have observed a considerable reduction in the morbidity since this method was adopted.

It would seem that the following conclusions and recommendations are justifiable:

1. Premature rupture of the amniotic sac does predispose to a subsequent sepsis.

2. The importance of this fact is not sufficiently recognized or emphasized.

3. The vagina is probably infected by digital examinations and the open canal allows infection to extend upward.

4. Strict aseptic precautions should be observed after this accident.

5. Vaginal examinations should be omitted.

6. All necessary examinations should be made per rectum.

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Discussion

Eugene Boise, Grand Rapids.—I was very much interested in the paper, because it is along a line of thought that has occurred to me the last few days, I don't know why. I am very glad that the statistics have shown us that primipara are much more likely to sepsis than multipara, but the question is: Why is it so? Now is it not probably because the vaginal examinations are made more frequently in primipara than in multipara and the membranes have ruptured prematurely, but because vaginal examinations are made in both cases, and the question suggests itself to me: Is it not possible that the rupture of the membranes and the discharge, and the manner in which the fluid is discharged, have something to do with it? We will suppose, for instance, that the infection has been conveyed to the vagina by the examining finger. In cases of premature rupture the water is discharged in small quantities and slowly, with no force whatever, we may say, whereas, when the dilatation is complete, the labor pains are strong, and the pain that ruptures the bag and membranes discharges the water with a gush and in large quantity, and the germs in the vagina may be washed away by that process. Then again, there is more likely to be an injury to the cervix in those cases of premature rupture of the membranes, probably. If the manner in which the waters are discharged plays no part

in the etiology of sepsis, or in the prevention, would not the advisability suggest itself, in all these cases of premature rupture of the membranes, to give a free sterile douche just when dilatation is nearly completed, to take the place of the gush of sterile amniotic fluid? I think that would be a very proper method of procedure. Of course, we none of us advocate the use of douches in ordinary cases, but in cases of that kind it seems to me that the administration of a douche would be not only indicated but imperative.

Conrad Georg, Jr., Ann Arbor.—I have been very much interested in this paper, and the remarks made by the last speaker remind me of a case that was once told to me by my father. He had been hearing about the use of douches in labor cases, and some obstetricians had recommended the use of the douche in the manner that has been presented this morning. He used it in a case, and this was a multipara who had always had easy births, but after that douche he said he had the most difficult time to extract the child; because of the douche, he thinks the mucus of the vagina was washed out, and hence there was less lubrication and it was a drier birth. Apropos then, of the use of the douche in labor cases, it seems to me it ought to be considered, that you may dry the vaginal secretions and get a more difficult labor than you would without the use of the douche. The advantages of the douche must be much superior to the ordinary cases before it should be employed. Then, in connection with the paper which was read, I am reminded of a case which I had a few years ago. I think unless a sterile bath can be taken, that every patient, every pregnant woman, is liable to infection from that source, especially if the membranes have ruptured. This case I wish to report is as follows: This patient had had five children, and they were perfectly normal births. In this last pregnancy she was going along the same as usual, her condition of health was perfect and we had every reason to think that she ought to recover from the confinement all right. This patient was taken in labor about two o'clock in the morning. The people lived out in the country about three miles west of Ann Arbor. The patient told her husband that she felt a little pain and asked him to telephone for the doctor. Immediately after receiving the message I started out, but while the husband was at the telephone the baby was born. It was born in less than fifteen minutes from the time the first pain began. When I got out there I found the baby had been born. I carefully disfnfected my hands, used the usual precautions, and found that the perineum was ruptured. First I ligated the cord and extracted the placenta, then repaired the perineum. There had been no examination made except that necessary to repair the perineum. In this case the patient developed violent sepsis at once. Within twenty-four hours she had a very high temperature, her pulse was between 130 and 140 and she was evidently suffering from severe sepsis. These conditions I could not account for, and I had a consultation. Even the consultant was in doubt as to the cause of the sepsis. Patient died within a few days. Perhaps if we could have done a hysterectomy the patient might have been saved, but the conditions there were not very favorable and, besides, the patient's condition of resistance was not good, so it was not undertaken. After this patient died we investigated the house and surroundings to see if we could find anything to account for this virulent infection, and I found that the outdoor closet, which was used by the patient, was practically full of feces to the seat. That is the only way that I could account for this infection. This brings to mind an important thing in the care of the pregnant patient that was mentioned in the paper, about the use of the closet. Patient should use a bed-pan, particularly after the membranes have ruptured. In this same family the husband was taken later with a virulent sepsis. He had a scratch on his finger, about the phalangeal metacarpal joint, where a localized infection developed a short time after his wife's death. The patient developed violent fever, ran a very rapid pulse, and delirium. In this case I opened up the site of infection at once and also gave him antistreptococcus injection. Within a few days the symptoms ameliorated somewhat, but later on he developed an abscess in the axilla, which I opened and drained. The patient recovered from the infection but it shows that there was a similar infection present about the house, or in some way contracted, because of the two cases occurring in very nearly the same time. It certainly reminds us of the necessity of every precaution being taken in taking care of pregnant women, and particularly in private houses. Disinfection of the room where the woman is confined should also be considered.

C. S. Cope, Detroit—After thirty-six years in the general practice of medicine, I can say, as

I recall my cases, that those cases of puerperal infection that I have had in confinements, have been mainly due to just this condition where there was delayed labor because of the premature rupture of the sac. I believe that is my experience. Of course, I could discuss, as the other doctor has, the idea of infection—I would like to say this: you should analyse the urine of your expectant mother and if you find indican you have a faulty metabolism, and, as a result of that faulty metabolism, you have a foundation laid for all troubles. Use your calomel and your blue mass, your clear out, clear out the entire system and put it on the defensive, and you are not going to have any sepsis, no matter what you do with your hands. For the first sixteen years of my practice I never washed my hands at all until after I was through, and did not have any cases of sepsis. Gentlemen, you may laugh, but it is a fact. I would not give five cents for your douches, and for your antiseptics. They don't amount to shucks, when you get right down to business, as we have got to do it, Sometimes the dirtiest patients in your life will get through all right. Then take your fine homes where everything is nice and sterile, and those women go down and die with sepsis. Now we have used every modern precaution, but still they die. If I had gone to work and analysed the urine and put that faulty metabolism in a normal condition, taken the indican out of the urine, my patients would not have died.

A. S. WHEELOCK, Goodrich.—I don't know as the paper should consider those premature cases, in general, where it occurs at five or six months. I have had a few interesting experiences and wish to mention, particularly, the fact of absence of sepsis in those cases, unless there had been instrumentation by which means an abortion has been produced. For instance cases like these: A lady 5½ months along, while washing, noticed a discharge of the fluids, and within a day or two she no longer noticed motion, no physician called, and for six weeks there were no pains, no symptoms whatever. She kept expecting delivery and yet she went to what would be the seventh month in the development of the foetus. I was convinced that her history was correct, that there had been a rupture of the membranes at 5½ months. There was no elevation of temperature, a sort of mummified fetus, no fluid and no sepsis following. I have had similar experiences. I have had them carried four weeks, and I think in those cases the experience has been no elevation of temperature. No douches used, no examination made, and they were devoid of any evidence of infection. I had also an interesting case, in the length of time a case might be carried at term after the rupture of the membranes. I was about to take a train to Chicago one morning and was called to a case that had previously engaged me. I told them all my arrangements were made, and asked the lady to secure another physician to attend her, and she said she would in case the pains developed. The fluids had drained away. I was gone two weeks and returned to one of the most difficult cases of instrumental delivery I ever had in a normal pelvis, yet no sepsis developed. I think experiences of that kind can be related. This went two weeks after the draining of the water, absolutely a dry birth, living child, and everything perfectly normal except the difficult instrumental delivery afterwards.

In regard to this douche question, I doubt if it should be used. Dr. Kamperman, if he were here, would take up the question, I am sure, very emphatically, as he points out in his paper that it is absolutely impossible to sterilize the labia, and it is absolutely impossible, with any douche that can be used, without destruction of the tissue, to carry germs to the labia and birth canal lower down, though they will be carried up, perhaps, to the uterine cavity itself. We cannot avoid it, and you cannot condemn the use of the douche in too strong terms.

C. E. BOYS, Kalamazoo.—One thing that appealed to me as entirely pioneer, so far as my experience goes, was the suggestion of rectal examination to substitute for vaginal ones. It would seem to take a very generous supply of rubber gloves, and much boiling, and frequently changed hand solutions, in order to make this feasible. After all, one sometimes questions how much good these examinations do, anyway. Personally, I depend more and more on external examinations for diagnosis of position and presentation, and I have frequently correctly diagnosed by external examination where an internal examination failed, so I think, perhaps, the vaginal examination can be eliminated more than it has been in the past, and perhaps, to considerable advantage.

H. H. CUMMINS, Ann Arbor, closing: I am sorry Dr. Kamperman cannot be here to close this discussion. Still, I feel that I know his opinion on the subject. As to the matter of douches it seems to me that here is a different action than

you normally get by the bag of waters, as the doctors mentioned. When that bag of water breaks there is a sudden gush of water, which may carry away infection, but with the douche, the water must go up and them come down. If your patient has gonorrhea, as we often find in our cases, we consider it is dangerous to give a douche, and you cannot always tell if they have this disease. The matter of rectal examination, I might say, is relatively new. Last summer at John Hopkins Hospital I had opportunity to make rectal examination of about 300 cases, and Dr. Worthington informs me that he makes a rectal examination of every private patient. Knowing that the presentations are correct and cases normal, he never makes a vaginal examination. Whenever the membrane ruptures we put the patient in bed, sterilize the vulva as best we can, put on vulva pads to warm the patient, and since we have been doing this we have had less sepsis in these cases.

PYELONEPHRITIS OF PREGNANCY*

WILLIAM F. METCALF, M. D.
Detroit, Mich.

Having no obstetric practice, I naturally see few of these cases, but, from the fact that I saw two in consultation the same day, lead me to think the subject of sufficient importance to warrant my bringing it to the attention of this society. As to the relative frequency of pyuria in pregnant women the Copenhagen Maternity Hospital Reports show, that as a result of careful urinary examinations in over 7,000 cases, pus was found present in the urine in only 6%; and in the majority of these cases the pus was due to inflammation of the bladder.

In suppurative processes in the kidney, occurring during pregnancy, there is first obstruction of the ureter, where it passes over the bony prominence of the superior strait—the sacro-iliac symphysis—by the enlarging uterus, and therefore retention of urine in the kidney-pelvis. By experimentation on dogs, Halbertama determined that the weight of five grams compressing the ureter over a surface of 8 mm., is sufficient to prevent the onward flow of a volume of urine weighing 400 grams. Of 25 cases of dilatation of the ureter Olshausen found it only on one side in 12, and of these 12 only twice on the left side.

I quote here the following from a paper by Dr. Charles Greene Cumston, of Boston:

"While the pregnant uterus develops, its borders come nearer to the ureters, which they displace and push over to the bones of the pelvis upon which it compresses them. The uterus develops much more to the right than to the left, and inclines to the former, and besides this it undergoes a rotation on its vertical axis and turns in the direction of its greatest development, that is to say, to the right. This explains why the lesion is more apt to be on the right side than on the left."

Cumston further says, that the dilatation never takes place in the intra-pelvic portion of the ureter, a fact that indicates that compression must take place at the superior strait.

The back-pressure of urine impairs the nutrition of the cells, lining the pelvis and tubules of the kidney. Infection enters through the blood supply or by ascending from the bladder. The colon bacillus is generally the offending micro-organism. The pregnant condition may also favor the infection. Various degrees of inflammatory changes then develop in the

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

kidney, even to the formation of multiple abscesses.

I quote the following from Dr. Paul Monroe Pilcher, of Brooklyn:

"From my own studies I conclude:

First. That a few cases are brought about by toxic influences and haematogenous infection in a kidney, whose vitality has been lowered by the occurrence of a pregnancy. This is probably the cause in pyelitis occuring in the earlier stages or pregnancy.

Second. That from the appearance of the bladder as viewed from within, it would seem very probable that the distortion of the vesical portion of the ureter (due to the presence of an enlarging uterus) could easily cause an obstruction to the free flow of urine into the bladder and favor a catarrhal inflammation of the ureter and pelvis, the infection being either haematogenous or by direct extension from the bladder. In some cases it has been observed by the writer that the bladder was compressed from above downwards, by the pregnant uterus, so that the ureter was made to bend sharply at the point of its entrance into the bladder, or was kinked in its course through the bladder walls. In other cases the bladder is flattened from before backwards, also offering possibility of distortion of the ureter.

Third. That pressure and distortion of the ureter above the brim of the pelvis, due to the enlarging uterus after the sixth month, is a frequent contributing cause."

The symptoms are those of toxæmia—chills, fever, perspiration, prostration, thirst, and muscular aching. Bladder symptoms may be present. It is differentiated from cystitis because of the absence of tenderness to pressure on the bladder and by urinary findings. There is, in some cases, severe pain in the region of the kidney and always tenderness to pressure over the kidney and ureter. Because of the latter sign a diagnosis of appendicitis is sometimes made. Before many hours, however, examination of the urine will enable one to make a positive diagnosis. There is pus in the urine at times when the ureter is not completely obstructed. The obstruction being intermittent, the pus appears in varying quantities. This also explains the irregularity of the fever and other symptoms. Blood, albumen and casts are sometimes found. The amount of pus in the urine need have no relation to the severity of the symptoms, as shown in Case 3. The prognosis in different cases varies greatly, but even in the most serious cases the prognosis is good if the cause be removed early.

Dr. C. B. Reed claims that premature labor occurs in about 50% of the cases. Cragin believes that if the child has reached the viable age termination of pregnancy is justifiable. Dr. Ross, of Toronto, advises the termination of pregnancy if the condition of the patient be serious. Dr. Plicher, of Brooklyn, believes that termination of pregnancy is seldom necessary.

The treatment is medicinal, dietetic, postural and surgical. At first the patient should be given urotropin or other urinary antiseptic, and milk diet. If only one kidney is involved she should lie on the opposite side. Some observers advise the sitting rather than the prone position, thus putting the kidneys at a higher level than the bladder.

Removal of the cause of obstruction, that is, emptying the uterus, is sometimes necessary to save the patient's life. This is recommended in preference to nephrotomy. I do not think nephrectomy justifiable in these cases, because if there were abscesses of the kidney they would be mulitple and the operation would not effect perfect drainage. If any operation were compelled nephrotomy would be preferable.

I quote further from Dr. Pilcher's paper:

"In a given case it is perfectly safe, should the symptoms not be too severe, to wait for 8 or 10 days without attempting to catheterize the ureters. If, at the end of this time, there be persistent temperature with pain and pyuria, or even without pain, it is indicated to pass a catheter to the pelvis of the affected kidney, to

drain it thoroughly, and then to instill one dram of 25% argyrol solution."

Dr. T. H. Hicks of England thinks constipation an etiological factor. He reports cases apparantly cured by vacine treatment without surgical intervention.

CASE 1. February 3, 1907, I saw Mrs. D. S., age 34, in consultation with Dr. Jas. Winter. She was in the fourth month of pregnancy. She was having irregular chills and fever. Her pulse was 140. Blood examination showed 26,200 leucytes with 96% polymophonuclears. Urine Sp. gr. 1004; cloudy; trace of albumen; many pus cells and pus casts; colon bacillus — pure culture. Opsonic index. 1.4.

Palpation showed right kidney enlarged and sensitive. The uterus was at once emptied of a dead foetus of foul odor. Urotropin was given by mouth and saline by rectum. The vacine treatment was also administered. Many specimens of urine were examined during the following month. A steady improvement in its condition was shown. Eventually her recovery was complete.

CASE 2. On December 30, 1908, I saw Mrs. A. K., age 36, in consultation with Dr. Carl Fettig.

Family history negative. She had always been healthy. She had had five children. She gave a history of having had two years previously a miscarriage produced because of "kidney trouble." Her symptoms were reported to have been: high fever, chill and pain in the back. She apparently became perfectly well after this. When I saw her December 30th she was five months advanced in pregnancy. For a week she had been having irregular fever and chills, and pain in the left lumbar region. Micturition was painful and difficult. Urine, turbid; Sp. gr. 1028; albumen marked trace; numerous pus cells; no casts. She was so extremely ill that I thought it better to empty the uterus at once. The os was dilated, podalic version performed and immediate delivery effected. Her recovery was rapid. Examination June 27, 1911 showed urine to be normal.

CASE 3. April 20, 1911, I saw Mrs. McB., with Dr. F. L. Newman.

Her previous health had been good. She was in the sixth month of her first pregnancy. She gave a history of having fallen in a bath-tub ten days previously. Her symptoms were irregular chills and fever with pain in the region of the appendix. Her appendix had been removed several years before. The tenderness to pressure over the right kidney was not marked. The fever having subsided and the pains being relieved led me to advise expectant treatment. I saw her again four days later when her temperature was 103, her pulse 140, and she presented symptoms of severe sepsis. Urine. trace of albumen; sugar; granular and hyalive casts; pus, and few red blood cells.

It was evident that radical measures must be taken to save her life. She was sent at once to St. Mary's Hospital where vaginal Caesarian section was done. A severe chill followed the operation and her temperature rose to 106. The temperature soon subsided, fluctuating between normal and 102 until May 5th, when, following a severe chill, it again rose to 106. Blood examination—Leucytes 11,600; polymorphonuclears 83%. The pus in the urine then increased in quantity and in 36 hours her temperature became normal and remained so.

May 6th Luys segregator was used with the following result: Right kidney—urine cloudy; flocculent sediment; alkaline; pus; and albumen present. Left kidney—urine clear; no deposit, neutral or acid; no pus; no albumen.

Daily examination showed little change until May 10th, when report reads: "Slight trace of albumen; few pus cells and few casts; urine was reported normal August 20th."

The cases reported above represent the severest form of the disease. Mild types are reported in which urinary antiseptics are sufficient, but I have seen none.

BLOOD PRESSURE IN ECLAMPSIA*

WALTER E. WELZ, M. D.
Detroit, Mich.

Probably the greatest advance made in obstetrics during the last decade has been the discovery of the significance of the variations in the blood pressure of pregnant women. It is now known that the blood pressure of a normal woman changes with the development of fetal life within her, and, during labor and puerperium, certain definite variations in pressure are noted. Deviation from the average intra-vascular tension at a given time of pregnancy is an important diagnostic and prognostic sign. Up to the present, sufficient use has not been made of the sphygmomanometer in pregnancy. It is the object of this paper to review some of the knowledge on this subject, and urge the general use of the sphygmomanometer in pregnancy.

A normal pregnant woman has a blood pressure of about 118 mm. until the eight month of her pregnancy, when the pressure gradually rises to 124 mm. As the uterus subsides into the pelvis, there is usually a slight fall of pressure, indicating that the bulk of the fetus is a factor in maintaining the normal state of intra-vascular tension of pregnancy. During the painless uterine contractions occurring months before term, the blood pressure rises slightly just as it does during true labor contractions. The position of the fetus before engagement does not influence the mother's blood pressure, nor does her age affect it, though her nervous condition may do so. Vogeler considered a pressure of 100 mm.—150 mm. normal for a pregnant woman before pains have set in. Other more recent observations have made 125 mm., the limit in pressure for a normal pregnant woman.

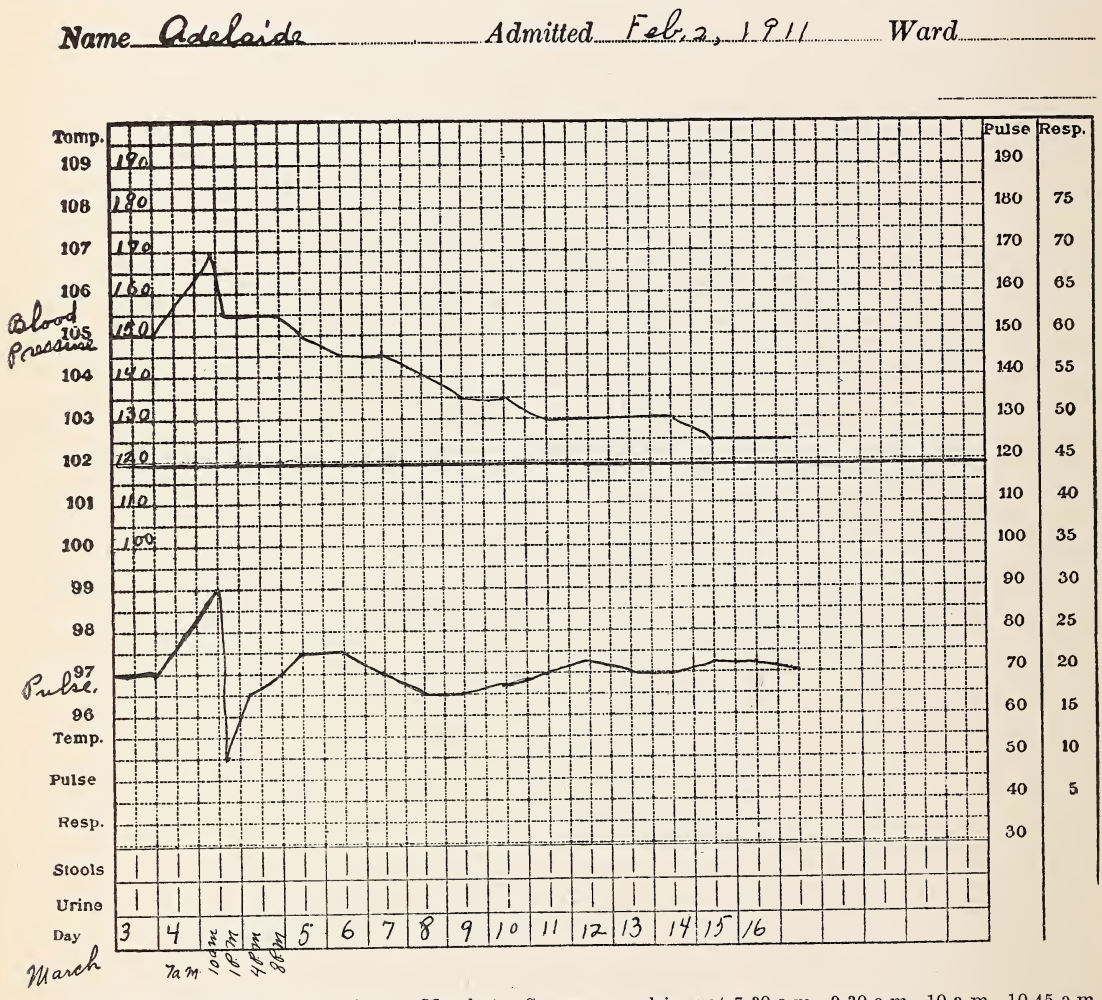
The onset of labor is accompanied by an increase of the mean systolic pressure. With each uterine contraction there is a slight rise of blood pressure, which drops during the intervals between the pains. In other words, the hypertension parallels the uterine contractions. The use of a narcotic has little effect on the tension during labor. As labor advances the hypertension is more pronounced until the end of the second stage when the highest pressure is reached. With the expulsion of the fetus there is a rapid fall of from 60 mm. to 90 mm. blood pressure, which brings it slightly under what was normal for the individual before the onset of labor. In thirty minutes the pressure usually returns slightly above the average for the patient before labor.

The rupture of the membranes causes a slight temporary drop in blood pressure; a hot pack produces the same result in a slight degree. There is an increase of pressure when the hand is introduced into the vagina. This "pelvic reflex" rise of arterial tension increases when forceps are applied, or version performed, and is greatest when traction is placed on the child. In some cases a rise of blood pressure was noted before pains were

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

felt, and a vaginal examination showed that labor had begun.

Patients suffering from eclamptic toxemia have a rise of blood pressure above normal from the beginning of the toxemia. This hypertension may begin at any time during the later months of pregnancy, non-eclamptic cases, and there is also the lessened tension after delivery as in non-toxic cases. In fact, blood pressure during labor of an eclamptic usually runs parallel with that of the normal case, except that it is considerably higher; it also tends to greater irregularity and at times increases

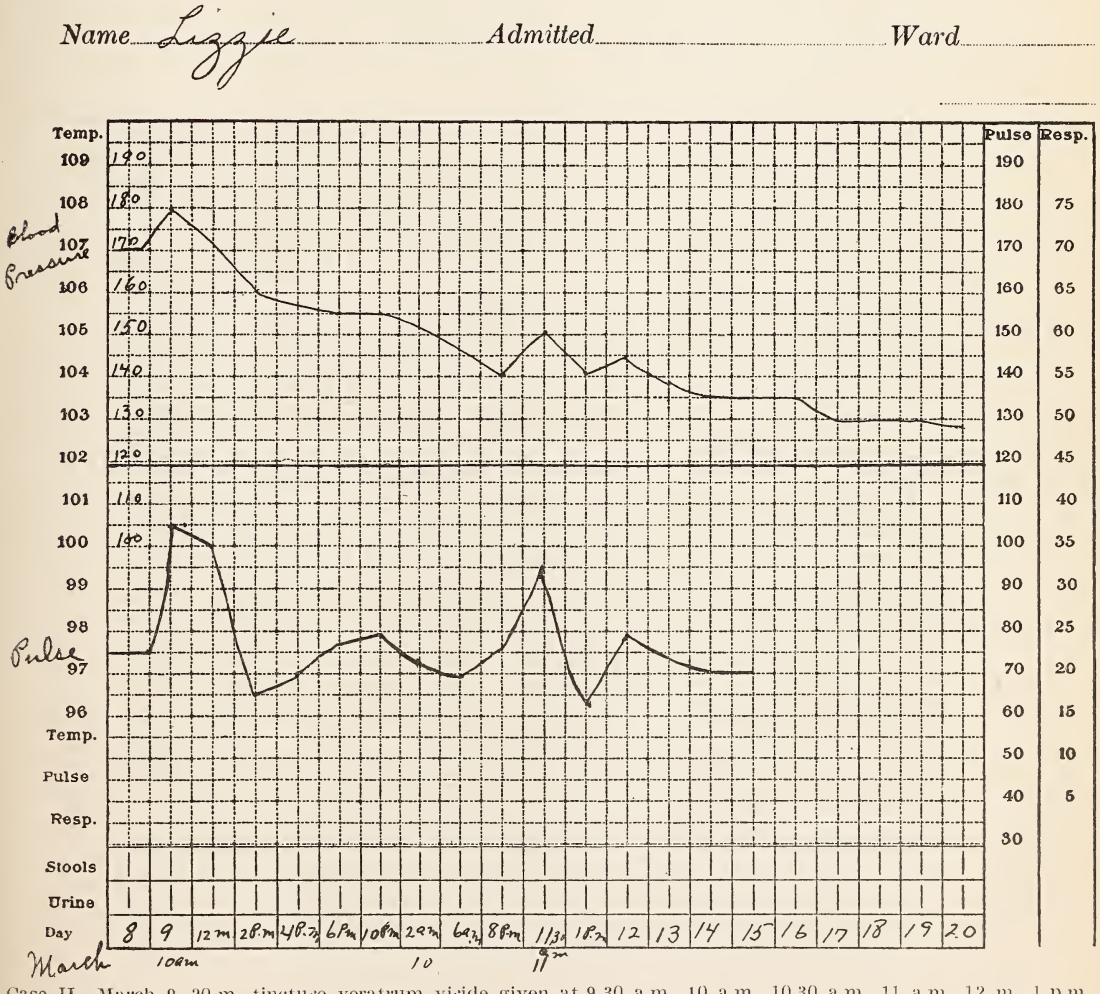


Case I—Normal confinement at 10.30 a.m., March 4. Severe convulsions at 7.30 a.m., 9.30 a.m., 10 a.m., 10.45 a.m. Tinct. veratrum viride m.XX given at 10.45 a.m., repeated at 11.15 a.m.

and its height is usually analagous to the intensity of the toxemia. If not interfered with, the pressure tends to increase continuously to the end of pregnancy, or the advent of eclamptic seizures. During the contractions of the uterus in labor the pressure increases as it does in rapidly. There is not quite as much depression in tension just after delivery as in a normal case. If recovery occurs, there is a gradual decline of pressure after the early post partum rise, until seven to fourteen days, when a normal pressure for the individual returns. Fatal cases have

a tendency to increased blood pressure which increases with successive convulsions. Before death there is a considerable drop in the pressure which accompanies collapse. The convulsive stage is always accompanied by a rise of pressure; these two symptoms seem to run fairly parallel. As the pressure drops there are fewer convulsions.

I wish to cite brief notes from four cases of eclampsia which have occurred during the past six months.

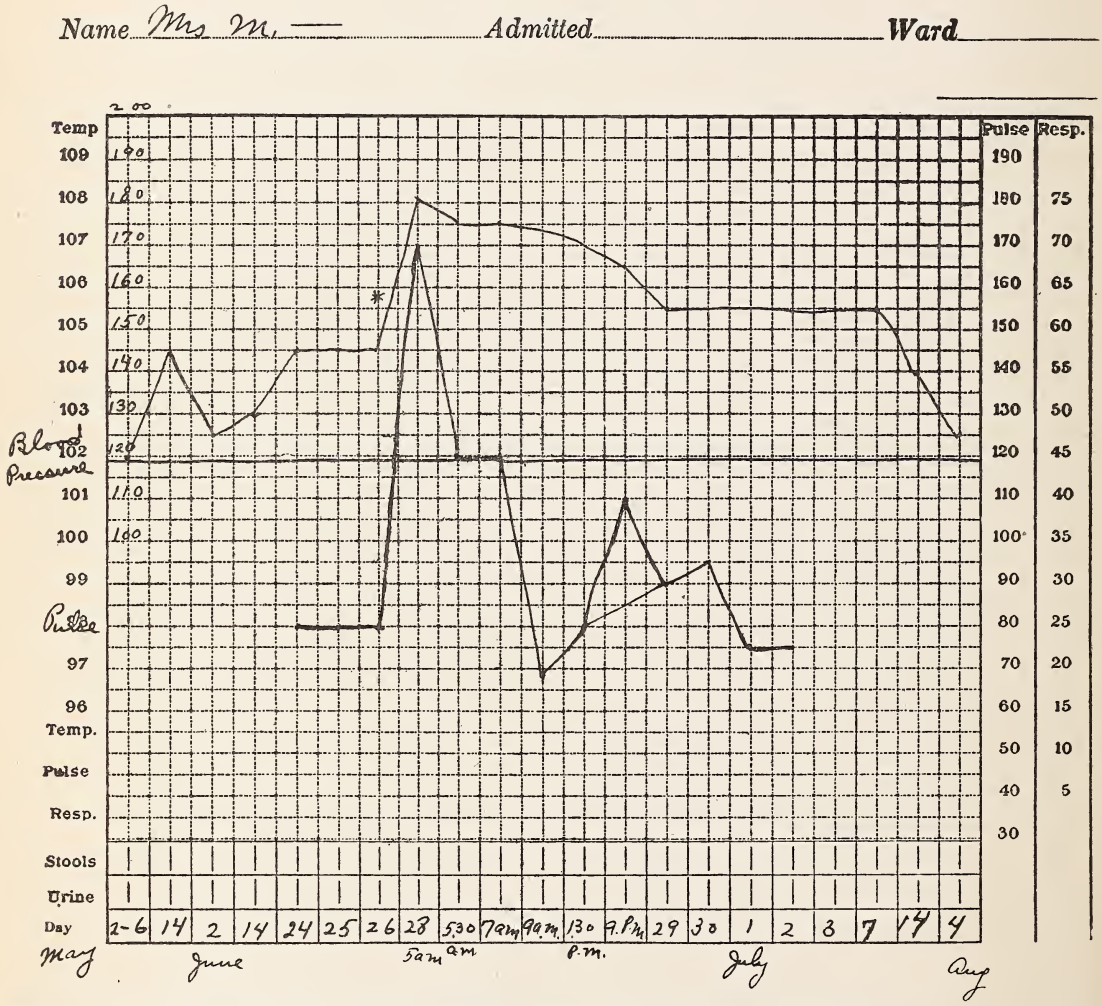


Case II—March 9, 20 m. tincture veratrum viride given at 9.30 a.m., 10 a.m., 10.30 a.m., 11 a.m., 12 m., 1 p.m., 2 p.m. Convulsions from 9.30 a.m. to 2 p.m., half hourly.
March 11, convulsions at 11.30 a.m., 20 minims veratrum given.

Case 1. Number 270 at Providence Hospital—Adelaide, aged twenty-five, primigravida, confined March 4, 1911. Had occasional slight headaches, no epigastric pain, no edema, very slight trace of albumin, blood pressure 150 mm. Labor began at 11:30 P. M., March 3. Spontaneous delivery of a living child at 11:30 A. M. Severe convulsions at 7.30 A. M., 9.30 A. M., 10 A. M., and 10.45 A. M., Twenty minims of tincture of veratrum viride given at 10.45 and repeated at 11.45 A. M. Eliminative measures from start of convulsions. After confinement blood pressure was 170 mm.; this returned to 125 mm. in seven days. Trace of albumin at 14 days; uneventful recovery.

Case 2. Number 272 at Providence Hospital—

Lizzie, aged 24, primigravida, confined March 9, 1911. Had severe headaches, occasional epigastric disturbances, slight edema of ankles, no eye symptoms. Blood pressure 170 mm.; 1% albumin in urine. Normal delivery at 5 A. M.; first convulsion at 9.30 A. M., blood pressure 180 mm.; convulsions continued at about one-



Case III—*Pat. delivered June 27. No blood pressure taken, as apparatus was not at hand. Convulsion June 28, 5 a.m., blood pressure 180. Veratrum reduced pulse rate 100 per minute and pressure only 10 mm. at same time.

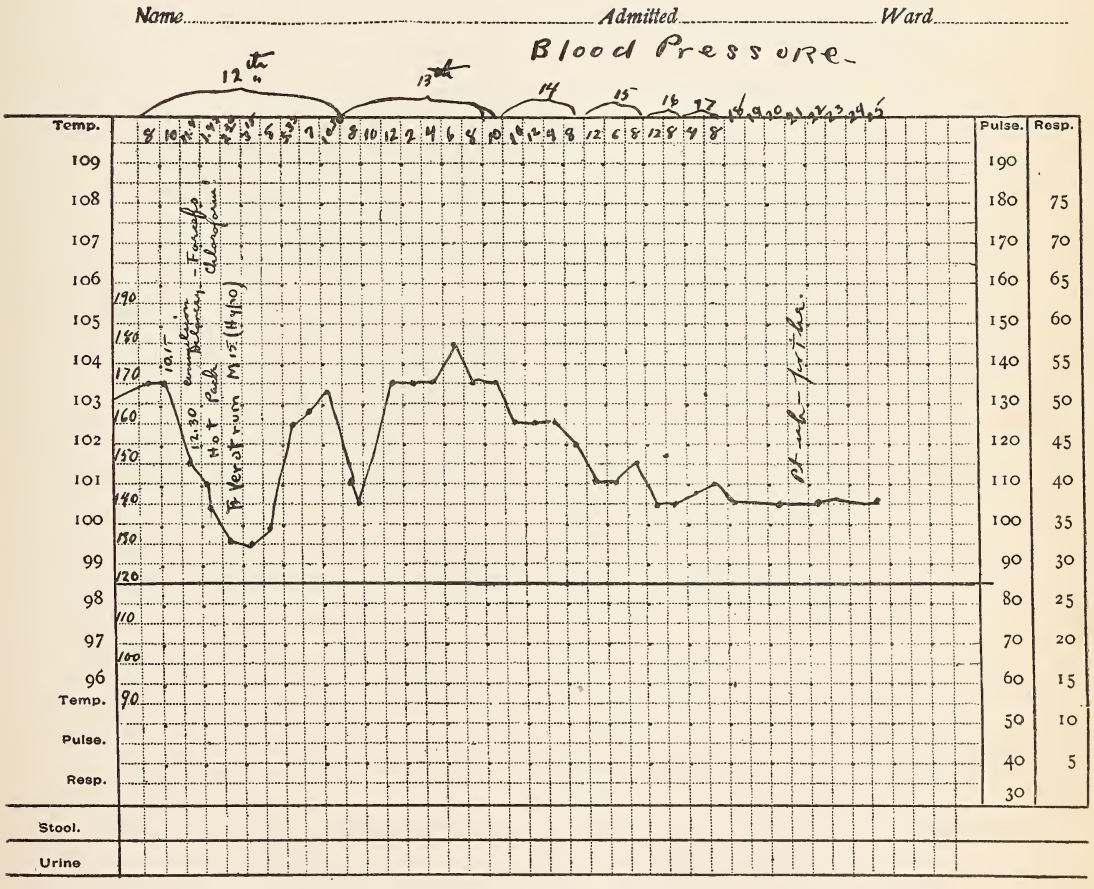
to 95, convulsions occurred. After twenty minims of veratrum pulse dropped to 63. From this time uneventful recovery. Trace of albumin in urine at discharge on seventeenth day. Blood pressure 128 mm.

CASE 3. Mrs. M., aged 43, secundipara, first child having died 6 years ago at age of 2. In

half hour intervals until 2 P. M., when they stopped. Hot pack and catharsis begun at once. Twenty minims of veratrum given at 9:30, 10, 10:30, 11, 12 A. M., 1 and 2 P. M During the night as the temperature rose to 100° F. she became restless and twenty minims veratrum were given. Blood pressure lowered gradually at 11:30 A. M. March 11th pulse rose

May she suffered from malaise and headache which were relieved by diet and eliminative measures. June 24th, suffered from malaise but no eclamptic symptoms except epigastric disturbance; blood pressure 140 mm. Urine contained great quantity of albumin. June 25th blood pressure 146, dieted. June 27th, about four hours after the beginning of pre-

mature labor, two convulsions at 6. P. M. Forcep delivery of living child. Complete suppression of urine for 14 hours. Hot packs given every 2 hours and proctoclysis given through the night. Tincture of veratrum viride minims XV and X sent pulse from 140 to 80 (somewhat irregular). June 28th, 5 A. M., in long convulsion veratrim minums XV, X, and X reduced pulse from 170 to 68. Blood pressure



Case IV—Copied from Hospital records.

reduced from 180 mm. to 170 mm. In ten days only lowered to 150 mm. Urine cleared rapidly and good recovery made.

CASE 4. Reported from the New York Infirmary for Women and Children—Mrs. J., aged 34, primigravida, had slight headaches and showed heavy albuminous deposit toward end of July. Sent to hospital with a pressure of 200 mm. Urine loaded with albumin, hyaline and granular casts, trace of blood. Hot packs, elimination, drop proctoclysis of decinormal saline solution reduced blood pressure to 170 mm. Aug. 10th, headache, dizziness, dimness of vision. Labor induced by introduction of hydrostatic bags. 11:45 A. M., convulsions began and continued every three minutes. Patient in labor, cervix dilated, forceps delivery at 12:15 P.M. Blood pressure at 12:30 P. M. 150 mm. At 1:30 P. M. ten minims veratrum given, reduced blood pressure from 140 to 130 mm. and pulse from 140 to 108. The blood pressure rose again to 140-150 and remained so about three days, then fell to normal and remained there. Normal puerperium.

The tincture of veratrum viride was given subcutaneously in 20 minim doses every half hour in Cases 1 and 2 until the

physiological effect was produced as indicated by the slowing of the pulse rate. In the first case, after 40 minims had been used, the pulse rate was reduced from 90 to 50 per minute, while the blood dropped from 170 mm. to 155 mm. in the same period.

In the second case 140 minims of veratrum were given in a period of four and one-half hours. In this time the pulse rate fell from 105 to 65 per minute, but the pressure fell only from 180 mm. to 160 m. m.

Case 3 shows a drop of over 100 in the pulse rate (from 170 to 68) in two and one-half hours after administration of 35 minims of veratrum, while the pressure fell less than 10 mm. in the same time, from 180 mm., to over 170 mm.

Case 4 shows a drop in pulse rate from 140 to 108 per minute, after only 15 minims had been administered, and during the same time, the pressure went from 140 mm. to 130 mm.

The same preparation of veratrum was used in the first two cases; different tinctures in 3 and 4. It is possible that the strength may have varied in the different preparations, though the official tincture was used in all. In all these cases there was a great decrease in the pulse rate as soon as the physiological effect of the veratrum was produced. The blood pressure was only slightly influenced, dropping but 10 mm. to 20 mm., and remaining rather high, though lower than the maximum reached during the convulsive stage. The convulsions ceased as the pulse rate decreased. In Cases 2 and 3 secondary convulsions occurred. In both these there had been a previous rise in pulse rate before the convulsion. Apparently the secondary convulsions appeared in these only after the action of the veratrum had greatly decreased. A small dose of veratrum caused the pulse rate to decrease and the convulsive symptoms disappeared soon after. Blood pressure did not vary much with these secondary convulsions, though it was higher than normal during the attacks.

There is at present a tendency to return to medical treatment of eclampsia. Veratrum viride deservedly occupies a leading place in the list of drugs which exert a favorable influence upon eclampsia. One must be careful to watch the effect of small doses given as rapidly as required to produce the physiological effect without the collapse which results from large initial doses. Moderate dosage to persons suffering from cardio-vascular diseases, or excessive dosage to others, may be disastrous. There may be two reasons for the favorable effect of veratrum on eclampsia.

1st. Its sedative effect on the brain may cause the cessation of convulsions and the amelioration of other symptoms.

2nd. By lessening the blood pressure it may control the possibly dangerous results of too great intra-vascular pressure. Convulsions alone are not necessarily dangerous as an eclamptic may have very many and make a good recovery. In the cases reported there was a slight decrease of the high pressure within an hour of the time the drug was given. It may be that this decrease of pressure was sufficient to permit normal conditions to return. More important still was the control of the rising pressure which might have resulted in cerebral hemorrhage, or with a weakened right heart, in pulmonary edema.

From our present knowledge we may say that eclampsia is invariably accompanied by increased blood pressure. Apparently the more severe the toxemia, the higher the blood pressure. Is the high pressure only a symptom of the condition, or is it a symptomatic entity of the toxemia of late pregnancy, which,

when aggravated, produces the more alarming conditions of eclampsia? If it is only a sign, it is the most important one. There are reasons to believe that it may be the direct causative factor of the eclamptic state. The necropsy findings tend to indicate the result of too great intra-vascular tension. Note the frequency of congestion of the spleen, congestion, edema, and ecchymoses of the lungs, congestion and hemorrhage of the brain, hemorrhages of liver and kidneys. To be sure the necrotic changes found in liver, kidney and pancreas are not to be attributed to high pressure, but rather to the harmful action of some toxin. These later changes can hardly be held to be the cause of death, however, and, if present without the circulatory disturbances, would not be considered sufficient to produce death. The circulatory disturbances, especially cerebral hemorrhages, edema of the lungs, congestion and edema of the brain, which are the most serious, alone are sufficient to cause death. These may be due to increased arterial tension alone or together with insufficiency of the right heart. Therefore the circulatory changes, especially the increased blood pressure, may be said to be the factors producing the serious conditions of eclampsia, even if we do not consider them the primary cause of the disease. A control of the blood pressure during the last months of pregnancy and the first few days post partum prevents the onset of the eclamptic state.

As the increased blood pressure is such a constant factor in eclampsia, and as it seems to vary directly with the severity of the toxemia, it seems to be the rational basis for the classification of the toxemias of late pregnancy. A proper classification may be of great help in the treatment and prognosis of the toxemias of late pregnancy. I would classify all cases of late pregnancy by dividing them into five groups.

Group A—Normal cases—No eclamptic symptoms. Urine normal. Labor normal. Blood pressure averaging 125 mm. and remaining essentially stationary after delivery.

Group B—Eclamptic cases which may be divided into mild and severe types.

1. Mild type of eclampsia—Albumin present in small amount, slight headache, edema, nausea. Blood pressure ranges from 140 to 180 mm. After delivery blood pressure returns to normal in a week or ten days. This is a toxemia of moderate degree, affecting previously healthy kidneys, and leaving them undamaged.

2. Severe type of eclampsia—Appearing at any time during the late months of pregnancy, developing progressive edema, headache, epigastric pain, impairment of vision, considerable albumin, convulsions, coma. Blood pressure is high (180 to 200 m. m. or over), pursues an irregular, high course and may remain high for a longer time than the mild type. This is a more severe type of toxemia which supervenes before the end of pregnancy, likely to cause the death of the fetus, associated with much albumin and a high blood pressure which falls after delivery. There is evidence of permanent damage to the kidneys. This type is very liable to succumb to the toxemia in spite of any treatment.

Group C—Chronic nephritis—High blood pressure (150 mm. to 200 mm.) which does not fall after delivery. Albumin and renal elements continuing after delivery. A toxemia, perhaps not of fetal origin, arising during pregnancy in patients with pre-existing chronic renal disease, characterized by persistent high blood pressure, not relieved by delivery.

Group D—Non-toxic renal conditions.—Renal disease, such as glycosuria of pregnancy or surgical pyelitis, not associated

with toxic manifestations of chronic nephritis or true eclampsia. Normal or sub-normal blood pressure.

Group E—Mechanical, non-toxic albuminuria from over distention of uterus in cases of hydramnios or gemini—High blood pressure (180 to 250 mm.) and albumin disappear after delivery.

While this grouping may not be such as to be accepted as final, it classifies quite well the ordinary types of pregnancy. Group B represents the mild and severe types of eclampsia, which I consider to be a toxic condidition dependent upon the development of the fetus. In these cases the blood pressure bears quite a constant relation to the other signs; it indicates more accurately the true condition of the patient. It is, therefore, of the greatest value in indicating therapy and prognosis. Groups C and D are groups of cases suffering from kidney derangement before the advent of pregnancy. I particularly wish to emphasize the importance of this classification, because it shows the necessity of pressure readings, and also that the other symptoms alone (especially urinary findings) are not sufficient to base a diagnosis of impending eclampsia. An abnormal urine without increased blood pressure does not point to eclampsia, but to a non-toxic disturbance of the kidney. One can readily see the bearing this has on prognosis and treatment of such cases. By placing a patient in one of the above groups, we may handle it much more satisfactorily, as each type requires a treatment suitable for the class.

In conclusion, I wish to urge the wider usage of the sphygmomanometer in pregnancy. It is of even greater diagnostic value than urinalysis, as the increased pressure may be present before there is any change in the urine. Careful watch of the blood pressure will inform us more accurately than any other means of the condition of patients suffering from toxemia of late pregnancy. If the warning of vascular hypertension is heeded, and means of control applied, many toxic women may be saved from more than prodromal symptoms of eclampsia. The sphygmomanometer should be the basis for prophylaxis of eclamptic seizures. This means that the medical treatment is to advance to a more important position, and diet, eliminative measures, hygiene, and certain drugs will lessen the need of surgery in the toxemia of late pregnancy. High blood pressure, associated with eclamptic symptoms, is always dangerous to life of the patient and her child; it may continue without convulsions and with only a small amount of albumin. During the eclamptic state a rise of pressure, or the failure of pressure to drop after treatment, indicates an unfavorable prognosis. A falling blood pressure is usually a good sign, unless there is the tremendous drop to sub-normal which occurs in collapse.

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NOVEMBER

EDITORIAL

FORTY-SIXTH ANNUAL MEETING

THE Forty-Sixth Annual Meeting of the Michigan State Medical Society has passed into history. In every way it was one of the best meetings we have ever had. The arrangements were ideal, the entertainment elaborate, and good fellowship prevailed.

Tuesday evening, September 26, the Wayne County Medical Society held open house at their building on High street, to which all were invited, and at which every one had an enjoyable time. Wednesday evening a reception was held in the convention halls of the Pontchartrain, which were packed to the limit. A Buffet luncheon was served, after which the members enjoyed some vaudeville stunts from the local theaters, vocal selections by Harold Jarvis, and some slight-of-hand tricks by Dr. Samuel Goodwin Gant, of New York City.

The ladies were entertained by automobile rides throughout the city, and the woman physicians were entertained at dinner by the Blackwell Society, Wednesday, the 27th.

Tuesday evening a complimentary dinner was given in honor of Dr. Carstens, at the Cadillac, at which covers were laid for over 200. The viands were delicious, the music of the best, and the toasts such as only Theodore A. McGraw, C. B. Burr, Joseph L. Hudson, D. G. C. (Doctor of Good Citizenship), Ernest L. Shurly, Walter H. Sawyer, Governor Chase S. Osborn, and Dr. Carstens himself, could give. The banquet broke up at a late hour, after which most of those in attendance repaired to the Wayne County Medical Building for the open house reception.

Scientifically, the Forty-Sixth Annual Meeting was not only a success, but a grand tribute to the officers of the various sections for their good work in arranging programs, which not only attracted an enormous attendance but held the attendance until the very last hour of the last afternoon. The meeting was remarkable for the small number of essayists who failed to put in an appearance when their papers were called. The symposium on "Heart Lesions" in the Medical Section and the symposium on "Surgery of the Kidney" in the Surgical Section attracted widespread attention, and, during these papers, the halls were packed to overflowing.

In respect to the attendance in the various Sections, the same thing noted last year was also in evidence this year; that is, the Section with the largest registration was the Medical, with 173; the Surgical had 140 registrations and the Gynecological 38. Those registered for two or more Sections, or expressing no Section preference, were 212, making a total of 563 members. As we remarked last year this shows a healthy preponder-

ance of men interested in internal medicine. There were 16 guests registered from other states, 12 non-members and 7 who have applications pending in the Wayne County Medical Society. The total registration, inclusive of 12 non-members, was 598.

The attendance at this meeting has set a record which will undoubtedly stand for many years.

The registration follows.

Guests—Chas. H. Mayo, Rochester, Minn; Alex. R. Craig, Chicago, Ill; Samuel G. Gant, New York City; A.M. Stimson, Washington, D.C.; Carl C. Warden, Los Angeles, Cal; James T. Pilcher, Brooklyn, N. Y.; Paul M. Pilcher, Brooklyn, N. Y.; Rosalie Slaughter Morten, New York, N. Y.; G. W. McCaskey, Fort Wayne, Ind; Brooks F. Beebe, Cincinnati, Ohio; A. E. Halstead, Chicago, Ill; Roger T. Vaughan, Chicago, Ill; L. G. McCabe, Windsor, Ont; W. H. Rheinfrank, Perrysburg, Ohio; W. E. Williams, Chicago, Ill; R. M. Woodward, U. S. P. H. & M. H. Service, Detroit. (16).

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Non-Members—John J. Marker, Eloise; Douglas Gordon, Detroit; E. L. Emmons, Detroit; Geo. W. Palmer, Chelsea; Jas. G. Cumming, Ann Arbor; Beatrice A. Stevenson, Detroit; E. J. Snyder, Detroit; Emma K. Bower, Detroit; N. M. Stevens, Detroit; B. G. McGarry, Fenton; N. S. Chamberlin, Royal Oak; C. L. Washburne, Ann Arbor. (12)

STILL "GETTING" DR. WILEY

"LET the pot sizzle. Dr. Wiley may come out of the fracas unharmed, we hope sincerely that he will, but others may get their fingers burned."*

As announced last month Dr. Wiley came out unharmed, thoroughly and completely vindicated by the President. Furthermore, Dr. Wiley was called back to Washington from his vacation, to meet with Secretary Wilson of the Agricultural Department, and consider ways and means of carrying on the work of enforcing the Pure Food Law. As a result of these conferences, Solicitor McCabe has retired from the Board of Food and Drug Inspection. Dispatches did not say whether he was "allowed to resign." Dr. F. L. Dunlap, the third member of the Board of Food and Drug Inspection, was granted a vacation, until the President's return. Dr. Dolittle, of New York, chief of the New York division of the Bureau of Chemistry, has succeeded Solicitor McCabe on the Board. Thus the enforcement of the pure food law is practically restored to Dr. Wiley's hands, but now comes an attack from another source. The JOURNAL of the Michigan State Medical Society has received the following letter:

Editor JOURNAL Michigan State Medical Society
Battle Creek, Michigan.

DEAR DOCTOR:

There has been a great deal of matter published in the press, recently, in reference to the excellent work done by Doctor Harvey W. Wiley, Chief of the Bureau of Chemistry. Press reports, however, are so garbled that the public is not informed of the true conditions existing. That Doctor Wiley, instead of being vigilant, was very negligent in his duties, was disclosed in the investigation recently conducted by the committee on expenditures.

It has long been supposed that Doctor Wiley is the doctor's friend. That such is not the case, however, is shown in letters written by Solicitor McCabe to Doctor Wiley. It affords me pleasure to enclose copies of same, which are self-explanatory.

I am also sending you under separate cover a pamphlet I have prepared on "Natural and Condimental Food Preservatives."*

Trusting you will find time to read same, I am,
Yours truly,
(Signed) H. L. HARRIS.

We have received letters from H. L. Harris before and have replied to this one, asking him what interests he represents.

Needless to say, the copies of McCabe's letters enclosed are not as convincing as he (Harris) would like us to believe, nor does he furnish us with Doctor Wiley's reply to McCabe.

Does Mr. Harris, or rather the interests he represents, believe that the Medical Profession will accept the statement of a man who, under duress, resigned his position on the Board of Food and Drug Inspection when he tries to discredit the man who, when under investigation, was absolutely and unequivocably vindicated?

It is needless, also, to point out the result of the investigation conducted by the Congressional Committee on Expenditures in the Agricultural Department. They not only do not show negligence on the part of Doctor Wiley, but show how he was hampered on every side, and at all times, by this same solicitor McCabe and others.

We have faith in Doctor Wiley, and believe that he will be able to survive this new attack with just as much credit as he did the other.

"Press reports are so garbled that the public is not informed of the true conditions existing." Rather a broad accusation against the whole press of the Nation, is it not?

*Editorial Journal M. S. M. S., September, 1911.

*Never received.

PROPOSED BUTTON



THE Wayne County Medical Society furnished a very appropriate pin to fasten on the badges at our State Meeting in Detroit. It is a silver button for the coat lapel, upon which appears, in the center, the rod of Aesculapius entwined with a coiled serpent. This is surrounded by a conventional wreath, and around the whole is a circular space bounded by two concentric dotted circles and containing the words "Michigan State Medical Society."

The Committe of the Wayne County Medical Society suggests that if the State Society wishes to adopt official buttons, these can be prepared at small expense.

The Button was well received at the Meeting. One thousand were prepared and all were given away before the meeting adjourned, many asking for some to take home to the other members of their County Society.

ANTITOXIN AND SUDDEN DEATH FOLLOWING ITS INJECTION

TRANSFUSION of blood has been used many years in the treatment of disease. The first reference to this practice is June 15, 1667, when Von Denis[1] transfused lamb's blood. The practice fell into disuse, but was revived about the middle of the 19th century. It was soon shown to be associated with great dangers.

In the year 1894, the use of diptheria antitoxin caused a widespread practice of injecting horse serum. This practice differed from the previous transfusion in that only small quantities of serum were used and the blood cells were not used. One of the first serious accidents following the use of diphtheria antitoxin, *i. e.* horse serum, was the death of Professor Langerhans' son. In 1896 Gottstein[2] reported eight cases of death following injection of serum in those having diphtheria and four deaths in those not sick with diphtheria.

This question of sudden death following the use of horse serum is the subject of several bulletins of the Hygienic Laboratory of the United States Public Health and Marine Hospital Service. Rosenau and Anderson[3] state in reference to this subject:

> While at first we thought that diphtheria antitoxin had some relation to this action, we are now able to state positively that it has nothing whatever to do with the poisonous action of horse serum; further, that diphtheria antitoxin in itself is absolutely harmless. The toxic action which we have studied is caused by a principle in normal horse serum and is entirely independent of the antitoxic properties of the serum.

They have shown that the injection of even a small amount[4] of horse serum in guinea pigs which have previously had an injection of horse serum, produces very severe symptoms, and even death within a few minutes; also that very small amounts of horse serum are necessary to sensitize the guinea pig,—in one instance, as little as 0.000,001 c.c. After the pig is sensitized as small an amount as 0.1 c.c. of horse serum is sufficient to cause the death of the animal. In bulletin number 36[5] appearing April 1907, they have shown that in guinea pigs a sensitized mother will transmit the sensitization to her offspring while the father will not; also that the sensitization is of long continuance[6] They have been able to show that guinea pigs fed with horse serum or horse meat[7] are suseptible to sub-

1. Landois.—Eulenburg's Realenzyklopaedie, 3 Auflage
2. Therap. Monatsch, 1896.
3. Hygienic Lab. Bul. 29, U. S. P. H. & M. H. S., p. 8.
4. Idem., pp. 47-49.
5. Hygienic Lab. Bul. 36, U. S. P. H. & M. H. S., pp. 47 et seq.
6. Idem., p. 62.
7. Idem., p. 61.

sequent injections of horse serum, and that the same is true in reference to beef, and cattle serum.

H. J. Gillette,[8] of Cuba, N. Y., reported a case of sudden death, following the injection of antitoxin for the relief of asthma. Later S. N. Wiley,[9] E. L. Boon,[10] and others, reported similar cases in the treatment of diphtheria, tetanus, etc. A. P. Ohlmacher,[11] of Detroit, reported two cases of severe symptoms, with recovery, in the treatment of rheumatism by the injection of horse serum. Many of these cases have been reported and there has been much conjecture as to the cause of death. The Surgeon General[12] of the Marine Hospital service suggested that the presence of asthmatic symptoms in the patient might have some bearing upon this question. This had also been suggested by others.

In Berliner klinische Wochenschrift, Berlin, August 30, 1908, a physician describes the collapse in his own person. It occurred in less than half an hour after a prophylactic injection of 1,000 units of antitoxin The threatening symptoms lasted nearly three hours and then gradually subsided, so that he had quite recovered the next day. He had noticed from childhood that the smell of horses produced discomfort and symptoms suggesting hay fever; they came on when he went into a stable, or was driving. Cows and other domestic animals did not have this effect, and he never had hay fever or asthma. It seems evident that the collapse was due to special hypersusceptibility to horse serum, and this view is confirmed by the fact that a kind of immunity persisted for three months afterward and then gradually subsided.

Editorially the Journal of the American Medical Association[14] suggests, that when such alarming symptoms develop, following the injection of horse serum, the patient be etherized. Besredka[15] finds that in sensitized guinea pigs all the usual symptoms of hypersusceptibility are prevented by ether narcosis.

Thomas,[15] after reporting a case of severe symptoms with recovery, states:

> I have used antitoxin for years and have given it twenty-five times since that unfortunate experience of five months ago, and only with good results. But in the light of the experience reported during the past few months, it behooves the profession to be on guard in the use of this remedy that we have heretofore given with feelings of safety.

Miller and Root[16] urge the use of as small an amount of horse serum as will contain the necessary antitoxin dose.

Vaughan[17] has suggested that in view of the universal use of horse serum, a small (0.5 cc.) dose of antitoxin be first injected to "discharge" the sensitization. After two or three hours, provided no severe reaction has followed, the large doses may be given with safety.

Scheidemandel[18] warns that the experience to date shows the possible peril with serotherapy. It should be restricted to cases in which it is absolutely necessary, and the patient's susceptibility should be determined, with minute doses first. Before giving the serum, inquiry should be made as to whether the patient has ever used it before. Scheidemandel thinks that it is possible that curative serums derived from monkeys may be better suited for clinical use than horse serum. He reports a case of severe collapse after a third injection of antistreptococcus serum given on account of a febrile osteomyelitis of the pelvis. The anaphylactic phenomena

8. Jour. A. M. A., Jan. 4, 1908, p. 40.
9. Idem., Jan. 11, 1908, p. 137.
10. Idem., Feb. 8., 1908, p. 453.
11. Idem., March 14, 1908, p. 875.
12. Idem., Feb. 8., 1908, p. 468.
13. Ann de l'Inst. Pasteur, 1907, xxi, p. 950.
14. Jour. A. M. A., Feb. 22, 1908, p. 3613.
15. Idem., July 4, 1908, p. 38.
16. Therapeutic Gazette, Feb., 1910.
17. Jour. M. S. M. S., Nov., 1908, p. 550.
18. Muenchen, Med. Wochensch, Oct. 26, 1909.

have been observed as late as three years after the first injection.

After receiving reports of sudden death or collapse, following serum injection, Gillette[19] reports as follows:

Out of the 23, 16 patients gave a history of some form of respiratory disease. Six of the 16 patients died and ten went into a state of collapse, with final recovery. Seven of the 23 gave no history of respiratory distress and the fact was definitely determined. Four of the 7 cases died and three went into a state of collapse, with final recovery. The conclusions based on these reports were as follows: There is a certain element of danger, if any form of horse serum is used in subjects who have suffered from any form of respiratory embarrassment, such as asthma, the so-called cardiac or renal asthma, hay fever, with resulting asthma; subjects liable to irritation of the mucous membranes when about a horse or stable. 2. Collapse or death was accompanied by a respiratory crisis, and when death occurred, it took place usually in less than ten minutes from the time of the injection. 3. The administration of any form of horse serum is liable to cause collapse or death, if the subject suffered from respiratory distress, and it is not due to any form of the antitoxin, or to any error on the part of the maker of the serum or the age of the serum, but to some highly organized proteid present in the serum, and the reaction of the proteid causes the crisis. This reaction takes place only under certain conditions. 4. The heart continues to act long after respiration has ceased.

Quoting again from Rosenau and Anderson[20]:

It is still our belief that it is not the special toxicity of the horse serum, but the sensitization of the patient, which accounts for the collapse or sudden death sometimes following the injection of horse serum. We are still unable to account for the ways in which man may be sensitized to a foreign protein. It seems perfectly plain, however, that man may be so sensitized. The knowledge of the fact that an injection of horse serum into some asthmatics may be attended with danger should be considered in the use of antitoxin.

The pathological report of the Gillette case[8] is not very full. Dr. Collier,[21] of Oxford, examined a girl of 19, an asthma sufferer, dead from horse serum injection, and found the lungs and cavities of the heart in such a condition as could only be brought about by sudden and extreme spasm, such as might be accounted for by an acute attack of asthma. In his opinion the injection of antitoxin started such an attack. He did not think that any one could have possibly anticipated such a result. In view of the great importance of the inquiry, he invited Dr. Dreyer, professor of patholgy in the University of Oxford, to be present at the examination. The latter agreed with his conclusions. At the inquest which was held, the jury returned a verdict that death was due to an attack of acute asthma, started by an injection of diphtheria antitoxin which had been administered with proper care.

Occasionally (though rarely) we read of a case of anaphylaxis (sudden death following the injection of antitoxin.) Usually in these cases no autopsy is done, or one by a general practitioner who looks only for gross pathology. Is it not possible that an expert pathologist could learn something of value to us in the future use of horse serum? Let us hope that every one of these unfortunate cases possible be turned over to a pathologist for careful study, so that the life, while lost, may not be lost in vain. Many cases are reported in which collapse occurred, following the injection of horse serum, with symptoms of respiratory trouble. By constant attention and heroic efforts, stimulation and artificial respiration, doctors have saved these patients. Rosenau and Anderson[22] have suggested that the essential lesion in serum

19. Jour. A. M. A., Feb. 13, 1909, p. 580.
20. Hygienic Lab. Bul. 45, U. S. P. H. & M. H. S., p. 61
21. Jour. A. M. A., Jan. 16, 1909, p. 223.
22. Hygienic Lab. Bul. 29, U. S. P. H. & M. H. S. p. 14.

anaphylaxis is probably localized in the respiratory center. Knowing this the doctor should, when he notices any untoward symptom following the injection of antitoxin, stay by his patient and use every means in his power to re-establish respiration. It has been shown repeatedly that the heart continues to beat after respiration ceases [19–22]

Before giving a dose of horse serum there are certain things which we should attend to. We should know, not only whether the patient has had horse serum injected before, but whether the patient's mother had previous to the patient's birth. We should know whether the patient has any form of respiratory or asthmatic trouble. We should be prepared to stay with the patient at least half an hour; to etherize the patient if any alarming symptoms arise; to produce artificial respiration, and, in short, to use every means in our power to re-establish respiration.

THE JOURNAL OF THE IOWA STATE MEDICAL SOCIETY

AMONG the latest recruits to the ranks of State Medical Societies owning and publishing their own Medical Journal, is Iowa. The Journal of the Iowa State Medical Society is unique among the State Journals,—it carries no advertising. The Editor is D. S. Fairchild, Clinton, Iowa, and he is to be congratulated upon the general appearance and arrangement. The time is undoubtedly coming when practically all the State Medical Societies will publish their own Journal. We shall watch with interest Iowa's attempt to do without advertising.

A CORRECTION

In the obituary notice of Dr. Malcolm Graham, in the September number, page 434, his age was given as 62. It should have been 72. We have this information from Dr. G. W. H. Kemper, of Muncie, Indiana. We are always glad to receive and make corrections, whenever error creeps into the Journal, and thank Dr. Kemper for his courtesy.

IN MEMORIAM

Dr. Herman Kiefer of Detroit, an honorary member of the Michigan State Medical Society, died October 11th, at the age of 85. From his arrival in Detroit, in 1849, a refugee from Prussian tyranny, he at once manifested and always maintained an interest in the city's affairs, and contributed by his advice, his influence and his work in various offices, to its welfare. As a medical man he was a physician of the old school, adhering strictly to the most orthodox science of the profession, and having little toleration for the "pathies" of the various sorts which have made their appearance during the past half century. His intellectual interests were various and broad; his knowledge of the literatures of many languages liberal and thorough, and his sympathy deep in all new developments of scientific research outside, as well as within, his profession. His long and active life in Detroit made his handsome and dignified personality a conspicious and familiar one in the streets of the city, so that there were few of the population, except within the last few years of his feebleness and retirement, who did not know him by sight and admire him. He was one of the best known and most admired men of the city for at least two generations past, and his disappearance from familiar places in recent years has been observed and regretted by many.

PROCEEDINGS OF THE FORTY-SIXTH ANNUAL MEETING OF THE MICHIGAN STATE MEDICAL SOCIETY, HELD AT DETROIT, SEPTEMBER 27 AND 28, 1911

MINUTES OF THE MEETING OF THE COUNCIL, MICHIGAN STATE MEDICAL SOCIETY

Sept. 26, 1911.

The Council of the Michigan State Medical Society was called to order by Chairman Dodge at Wayne County Medical Building, Detroit, at 4:00 P. M., Tuesday, September 26, 1911.

Present: Chairman Dodge, Councilors Biddle, Bulson, Haughey, Rockwell, Spencer, Kay, Seeley, Baker, Ennis, President Burr, Secretary-Editor Wilfrid Haughey, Treasurer Inch, F. B. Tibbals, Chairman of the Medico-Legal Committee, and Dr. A. R. Craig, Secretary of the A. M. A.

The report of the Council to the House of Delegates was read by Chairman Dodge and adopted, section by section, and as a whole.

Moved by Councilor Spencer that we recommend to the House of Delegates that the time of holding the Annual Meeting of the State Society be changed so that the meetings may be held in the spring or summer months.

Supported by Councilor Haughey and carried.

Councilor Ennis moved that Dr. Elwood, Secretary of the Menominee County Medical Society, be allowed to address the Council.

Permission was granted.

Dr. Elwood stated that he had been requested by the Menominee County Medical Society to ascertain if it could be arranged for the members of the Menominee County Medical Society to withdraw from the Michigan State Medical Society and join the Wisconsin State Medical Society, retaining their membership in the A. M. A. through Wisconsin. This request is made because of the geographical location of Menominee, it being very difficult to attend the State meetings in Michigan and comparatively easy to attend those of Wisconsin.

In the discussion it developed that if this request was granted, there might be a question as to the defense of the members from Menominee county, and also they might lose their membership in the A. M. A., as that Association requires that at the expiration of one year each of its members acquire membership in the County Society of the county and state in which he practises medicine.

No action was taken in the matter.

In the absence of Councilor Hume, Councilor Biddle presented the following communication from Genesee County Medical Society:

Dr. A. M. Hume,
Councilor of the Sixth District,
Owosso, Mich.

Dear Doctor:

At the last regular quarterly meeting of Genesee County Medical Society Drs. Noah B. Bates and R. N. Murray, of Flint, were elected to honorary membership in the Society. Both of these venerable gentlemen have been in active practice for thirty years and ten years as members of this Society.

Genesee County Society recommends them to the Council for their appointment as honorary members of the Michigan State Medical Society.

Yours respectfully,
C. P. Clark, *Secretary.*

Councilor Biddle moved that Drs. Bates and Murray be recommended to the House of Delegates for Honorary Membership, and also Dr. H. B. Landon, of Bay City.

Supported and carried unanimously.

Councilor Baker moved that Dr. Chas. H. Mayo, of Rochester, Minn., be recommended for Non-Resident Honorary Membership. Carried unanimously.

Chairman Dodge suggested the nomination of Dr. Craig, Secretary of the A. M. A., for Non-Resident Honorary Membership.

On motion the nomination carried unanimously.

The Secretary-Editor stated that it was quite necessary to make different arrangements as to keeping the mailing list of the Journal, and suggested the purchase of an addressing machine. This matter was laid over until the next session.

Recess was taken until 2:00 P. M., Wednesday, Sept. 27, 1911.

Sept. 27, 1911.

The second session of the Council of the Michigan State Medical Society was called to order by Chairman Dodge at the Hotel Pontchartrain, Sept. 27, 1911, at 3:30 P. M.





PRESIDENT MICHIGAN STATE MEDICAL SOCIETY 1911-12

The entire Council was present, also the Secretary-Editor.

The Minutes of the previous session were read and approved as corrected, by adding the name of Dr. Landon to those recommended for Honorary Membership.

The Council proceeded to consider the request from the House of Delegates that the Council formulate a more definite plan of redistricting the State than is provided for in the proposed amendment to the Constitution, which reads as follows:

"ARTICLE VIII, Section 1, strike out the words 'and twelve Councilors' and substitute the words 'and a Board of Councilors.'"

After discussion it was moved by Councilor Haughey that the Council request the House of Delegates to establish two extra Councilor Districts, one in the northern part of the state, to consist of the counties of Antrim, Charlevoix, Emmett, Cheboygan, Presque Isle, Alpena, and Alcona; and another in the southern part of the state to consist of the counties of Washtenaw, Lenawee, and Monroe, and ask for fourteen Councilors.

The motion was supported by Councilor Seeley, and carried.

Chairman Dodge suggested the following recommendation to the House of Delegates as a substitute to the proposed Amendment to the Constitution:

"The Council recommends that Article VIII, Section 1, of the Constitution, be amended by striking out the words 'and twelve Councilors,' and substituting the words, 'and a Board of Councilors of such number as the House of Delegates upon recommendation of the Council, may from time to time fix by resolution.'"

Councilor Hume moved the adoption of the recommendation.

Supported by Councilor Bulson, and carried.

The Secretary stated that he had been requested by Dr. Amberg to bring before the Council the matter of having a Committee appointed by the Michigan State Medical Society to formulate some plan of controlling the practice of Specialties.

After some discussion this subject was decided to be under the jurisdiction of the House of Delegates.

Moved by Councilor Baker that the purchasing of an addressing machine be left in the hands of the Secretary with power to act.

Supported and carried.

Moved by Councilor Rockwell that the Secretary-Editor be granted authority to purchase a copy of the new directory of the A. M. A.

Supported and carried.

The Secretary-Editor read the following letter from the Secretary of Board of Trustees, A. M. A.

New York, N. Y., March 13, 1911.

DEAR DOCTOR:

At a meeting of the House of Delegates of the American Medical Association held in St. Louis, Wednesday, June 8, 1910, the following resolution was presented by Dr. Hubert Work, of Colorado:

"WHEREAS, the plan of organization of the profession carried to its logical conclusion means that every member of a county society should be *ipso facto* a member of the American Medical Association, just as every member of a county society is *ipso facto* a member of a state society, and as it is the ultimate end of the plan that the American Medical Association should be coextensive with the organized profession throughout the land, and as nearly, if not quite, every State already has adopted the plan so far as making every member of a county society a member of a state society, therefore be it

"RESOLVED, That the President appoint a committee to draw up details for extending the plan to the American Medical Association, and to present this plan to the various state societies for their consideration during the coming year, and make a report at the next Annual Meeting of the House."

Dr. Alexander Lambers, of New York, moved as an amendment, that the resolution be referred to the Board of Trustees, because it means a separation of the JOURNAL from the membership in a manner which involves the finances of the Association.

The amendment was seconded, and accepted, and the original motion as amended was carried.

The Trustees have given this matter full consideration, and at a meeting held in Chicago on February 3rd, 1911, the following resolution was passed:

"RESOLVED, that the Board of Trustees refer to the various state societies the question of the desirability of extending the plan of organization as represented in the foregoing resolution, and request that the various state societies take action on this matter and report to the Board.

In accordance with this last resolution I beg herewith to transmit the matter to your Society for consideration, and request that your report be sent to the Board of Trustees, American Medical Association, 535 Dearborn Ave., Chicago, Ill.

Very truly yours,
WISNER R. TOWNSEND, *Secretary*.

DR. WILFRID HAUGHEY, *Secretary*,
Michigan State Medical Society,
Battle Creek, Mich.

Moved by Councilor Haughey, that this letter be referred to the House of Delegates without recommendation from the Council.

Supported by Councilor McMullen and carried.

A recess was taken until 12:00 P. M., Thursday, Sept. 28, 1911.

Sept. 28, 1911.

The last session of the Council of the Michigan State Medical Society was called to order by Chairman Dodge at noon, Thursday, September 28th, 1911.

Present: Chairman Dodge, Councilors Biddle, Bulson, Haughey, Rockwell, DuBois, Hume, Seeley, Ennis, Southworth, President-Elect Welsh and Secretary-Editor Wilfrid Haughey.

Chairman Dodge introduced to the Council the new President, Dr. D. Emmett Welsh, of Grand Rapids, and the new Councilors, Dr. W. J. DuBois, of Grand Rapids, Councilor of the Fifth District and Dr. C. T. Southworth, of Monroe, Councilor of the 14th District.

The Minutes of the last session were read and approved.

The Secretary reported that the House of Delegates had requested the Council to appropriate One Hundred Dollars to be used in purchasing a suitable Memorial to be presented to the Wayne County Medical Society, as an expression of appreciation from this Society for the entertainment afforded.

Moved by Councilor Bulson that the Council appropriate One Hundred Dollars for that purpose, subject to the use of the Committee to be appointed by the President.

Supported and carried.

Moved by Councilor Biddle that the Secretary be ordered to cast the unanimous ballot of the Council for Councilor Dodge to succeed himself as Chairman.

Motion supported and carried.

Secretary cast the uanimous ballot of the Council for Councilor Dodge and he was declared Chairman for the ensuing year.

Moved by Councilor Biddle that the Secretary be ordered to cast the unanimous ballot of the Council for Councilor Bulson for Vice-Chairman to succeed himself.

Motion supported and carried.

Secretary cast the unanimous ballot of the Council for Councilor Bulson for Vice-Chairman for the ensuing year, and he was declared elected.

Moved by Councilor Ennis that Councilor Haughey be retained as Secretary for the ensuing year.

Motion supported and carried.

Moved by Councilor Biddle that the Honorarium to the Secretary of the Council and to the Stenographer be the same as last year, Fifty Dollars each.

Motion supported and carried.

Chairman Dodge appointed the standing Committees as follows:

COMMITTEE ON FINANCE.

B. H. McMullen, Cadillac;
A. L. Seeley, Mayville;
C. H. Baker, Bay City;
C. T. Southworth, Monroe;

COMMITTEE ON PUBLICATION.

A. P. Biddle, Detroit;
W. J. Kay, Lapeer;
W. J. DuBois, Grand Rapids;
A. M. Hume, Owosso;

COMMITTEE ON COUNTY SOCIETIES.

W. H. Haughey, Battle Creek;
A. E. Bulson, Jackson;
A. H. Rockwell, Kalamazoo;
C. J. Ennis, Sault Ste. Marie;
F. C. Witter, Petoskey;

Moved by Councilor Biddle that the Secretary be instructed to extend to our retiring Councilor, Dr. Spencer, our appreciation of what he has done for us and for the State Society during the last six years, while he was a member of the Council, and our regret that he has found it necessary to leave the Council, and, at the same time, our good will for his success in the future.

Supported by Councilor Rockwell and carried.

Chairman Dodge suggested that a committee be formed to draft appropriate resolutions, expressing our appreciation of the pleasant relations of the Council with Dr. C. B. Burr, during his term of office as President of the Society, and also during the years he was a member of the Council, and that these resolutions be engrossed and forwarded to Dr. Burr.

Moved by Councilor Rockwell that the Chair appoint a committee of three to draft a set of resolutions as suggested, and that they be engrossed and forwarded to Dr. Burr.

Motion supported and carried.

Chair appointed the following committee: Councilors Rockwell, Biddle, Hume.

Adjournment was taken to meet in January at the call of the Chairman and Secretary.

W. H. HAUGHEY,
Secretary of Council.

BURR RESOLUTIONS

The Committee of the Council appointed to draft resolutions expressing the appreciation of the Council to *Dr. C. B. Burr* for his manifold service to the Council and the Michigan State Medical Society, respectfully offers the following:

WHEREAS, With the expiration of his term

of office as President of the Michigan State Medical Society the official relation of *Dr. C. B. Burr* with the Council has terminated; be it

RESOLVED, That the sincerest appreciation of the Council be and is hereby expressed to *Dr. C. B. Burr*, for his long continued and faithful services in the interest of the Michigan State Medical Society, both as a member of the Council, its presiding officer, and as President of the Society;

RESOLVED, That the Council, with gratitude record his devotedness to the welfare of the Society, his unfailing courtesy in his deliberations as its presiding officer, his thoughtfulness of and sympathy with the views of others ;

RESOLVED, That the Council extend its best wishes for his future health, happiness and success, and its earnest prayer that the Society may enjoy for many years to come his wise counsel, the fruit of his ripened judgment;

RESOLVED, that these resolutions be spread upon the minutes of the Council, that a copy be recorded in the Journal of the Michigan State Medical Society and that a copy be furnished Dr. Burr.

A. H. Rockwell,
A. M. Hume,
A P. Biddle.

MINUTES OF THE MEETING OF THE HOUSE OF DELEGATES MICHIGAN STATE MEDICAL SOCIETY

Sept. 27, 1911

The House of Delegates of the Michigan State Medical Socicty was called to order by President Burr in the Convention Hall, at the Pontchartrain, Detroit, at 8:30 A. M., Wednesday, Sept. 27th, 1911.

The report of the Committee on Credentials was read by the Chairman, Dr. B. R. Schenck, showing the following delegates registered:

Alpena, C. M. Williams; Bay, C. H. Baker; Benzie, C. P. Doyle; Berrien, C. N. Sowers; Calhoun, A. W. Alvord; Chippewa, J. Gostanian; Delta, G. W. Moll; Eaton, P. H. Quick; Emmett, J. J. Reycraft; Gratiot, E. M. Highfield; Hillsdale, W. H. Sawyer; Houghton, W. K. West; Ingham, M. L. Holm; Ionia, C. S. Cope; Kalamazoo Academy, W. A. Stone; Kent, W. J. DuBois, J. D. Brook, C. H. Johnston; Lapeer, J. V. Frazier; Manistee, L. S. Ramsdell; Menominee, C. R. Elwood; Monroe, C. T. Southworth; Muskegon-Oceana, F. B. Marshall; Schoolcraft, G. M. Livingston; Tri-County, D. R. Ralston; Tuscola, C. W. Clark; Washtenaw, R. Peterson, John A. Wessinger; Wayne, F. B. Walker, G. L. Kiefer, F. W. Robbins, G. E. McKean, C. G. Jennings, B. R. Schenck, G. L. Connor, F. B. Tibbals; Genesee, H. E. Randall.

The following delegates registered later:

Barry, G. M. Lowry; Branch, Samuel Schultz;, Calhoun, G. C. Hafford; Genesee, A. R. Ingram; Huron, D. J. Monroe; Kalamazoo Academy, Wilbur F. Hoyt; Lenawee, Geo. H. Lamley; Livingston, J. W. Browne; Oakland, Mason W. Gray; Saginaw, P. S. Windham; St. Clare, C. C. Claney; Wayne, T. A. McGraw.

On roll call a quorum was found to be present.

The Minutes of the last Annual Meeting were read by the Secretary and on motion were accepted and adopted.

The report of the Committee on Arrangements, Dr. J. A. MacMillan, Detroit, Chairman, was presented, and on motion of Dr. Livingston, Schoolcraft, was accepted and ordered placed on file. (See page 494.)

The report of the Council to the House of Delegates was read by Dr. W. T. Dodge, Big Rapids, Chairman. (See page 557.)

Accepted and referred to the Business Committee to be appointed later.

The Report of Committee on Legislation and Public Policy and on the work of the National Legislative Council, was read by Dr. W. H. Sawyer, Hillsdale, Chairman. (See page 494.)

Dr. Schenck, Wayne, moved that the report of the Committee be accepted and placed on file. Carried.

The following amendment to the Constitution, proposed last year, was presented for adoption:

Article VIII, Section 1, strike out the words 'and twelve Councilors' and substitute the words 'and Board of Councilors.'"

Moved by Dr. DuBois, Kent, that this amendment be tabled for one year, and that the matter be referred to the Council, with the request that they formulate and present a more definite plan.

Dr. Baker, Bay, moved as an amendment to the motion that the matter be laid on the table for one day, and that the Council be requested to report to the House of Delegates at the next session.

The amendment was accepted by Dr. DuBois.

The motion as amended was supported and carried.

On motion of Dr. DuBois, Kent, the report of Delegates to the A. M. A., by Richard R.

Smith, of Grand Rapids, was accepted as printed and ordered placed on file. (See page 497.)

Nominations for the Committee on Nominations were made from the floor as follows:

P. H. Quick, Eaton;
W. A. Stone, Kalamazoo;
C. T. Southworth, Monroe;
F. B. Marshall, Muskegon;
J. D. Brook, Kent.

On motion of Dr. DuBois, Kent, the nominations were declared closed.

Moved by Dr. Walker, Wayne, that the Secretary cast the unanimous ballot of all present for the election of the above named Nominees.

Motion supported and carried.

The Secretary cast the unanimous ballot of all present for the nominees and they were declared duly elected.

President Burr announced the following Business Committee:

W. K. West, Houghton,
J. A. Wessenger, Washtenaw,
L. S. Ramsdell, Manistee,
C. M. Williams, Alpena,
F. B. Walker, Wayne.

The Secretary presented the following petition:

To The House of Delegates:

We hereby petition your Honorable Body to establish a Section on Ophthalmology and Oto-Laryngology in the Michigan State Medical Society. In the past this Department has been combined with the Surgical Section.

Emil Amberg	D. Emmett Welsh
P. M. Hickey	J. G. Huizinga
E. L. Shurly	Louis A. Roller
B. R. Shurly	John R. Rogers
R. W. Gillman	James M. DeKraker
Harold Wilson	R. T. Urquhart
Walter R. Parker	F. Dunbar Robertson
George M. Waldeck	Chas. Bloodgood
C. L. Chambers	J. Harvey Innis
M. P. Levin	Everard W. E. Paterson
Henry J. Hartz	Edward W. Tolley
H. L. Simpson	J. A. Heasley
Ray Connor	E. J. Bernstein
J. E. Gleason	E. P. Wilbur
Herman Sanderson	J. H. McKibben
Don M. Campbell	Wilfrid Haughey
Guy H. McFall	R. D. Sleight
Louis J. Goux	A. E. Bulson
R. E. Mercer	G. E. Winter
J. V. White	F. E. Grant
Chas W. Ryan	W. M. Carling
C. H. Baker	F. D. Heisordt
P. R. Urmston	H. Beach Morse
A. G. Rogers	D. B. Cornell

James Gostanian.

Moved by Dr. Gray, Oakland, that the petition be received, the prayer of the petitioners be granted, and that notice be given today of the amendment to Section 10, Chap. IV, of the By-Laws which will be required to bring this about.

The motion was supported and carried.

Proposed amendment to the By-Laws:

Amend Section 10, Chapter IV, to read as follows: "Section 10. The House of Delegates shall provide for the division of the scientific work of the Society into approprite Sections:

First—A Section on General Medicine.

Second—A Section on Surgery.

Third—A Section on Obstetrics and Gynecology.

Fourth—A Section on Ophthalmology and Oto-Laryngology."

Moved by Dr. Baker, Bay, that the Committee on Legislation and Public Policy be requested to formulate a bill or recommendation to the Legislature looking toward the hiring by School Boards of Medical Inspectors of School Children.

Supported by several and carried.

The Secretary stated that the fo lowing Associations were holding meetings contemporaneously with the meeting of the Michigan State Medical Society:

The Association of Military Surgeons, at Milwaukee.

The Indiana State Medical Association, at Indianapolis.

The Medical Society of the State of Pennsylvania, at Harrisburg.

Moved by Dr. Wessenger, Washtenaw, that the Secretary be instructed to send telegrams of greeting to the various societies.

Supported and carried.

(Messages despatched by the Secretary, immediately after adjournment.)

The House of Delegates adjourned to meet at eight o'clock on the morning of September 28th, 1911.

Sept. 28th, 1911.

The second session of the House of Delegates was called to order by President Burr at 8:30 A. M., in the Convention Hall, Hotel Pontchartrain, Detroit, Thursday, Sept, 28th, 1911.

The Minutes of the previous session were read by the Secretary and approved.

Dr. Brook, of the Committee on Nominations,

asked that they be given more time in which to formulate their report.

Request was granted.

The report of Committee on the Study and Prevention of Tuberculosis, Dr. H. J. Hartz, Detroit, Chairman, was accepted as printed and ordered placed on file. (See page 498.)

The report of the Committee to Encourage the Systematic Examination of the Eyes and Ears of School Children throughout the State, Dr. Walter R. Parker, Detroit, Chairman, was accepted as printed and ordered placed on file. (See page 501.)

The report of the Committee on Venereal Prophylaxis, by Dr. A. P. Biddle, Detroit, Chairman, was accepted as printed and ordered placed on file. (See page 499.)

Dr. W. T. Dodge, Chairman of the Council, submitted the following additional report:

"The Council recommends that Article VIII, Section 1, of the Constitution be amended by striking out the words "and twelve Councilors" and substituting the words "and a Board of Councilors of such number as the House of Delegates, upon recommendation of the Council, may from time to time fix by resolution.

"The Council recommends that the number of Councilor Districts be fixed at fourteen, that two extra Councilor Districts be etsablished, one in the northern part of the state, to consist of the Counties of Antrim, Charlevoix, Emmet, Cheboygan, Presque Isle, Alpena and Alcona, and another in the southern part of the state, to consist of the Counties of Washtenaw, Lenawee and Monroe.

"The following letter is referred to the House of Delegates without recommendation from the Council:

New York, N. Y., March 13, 1911.

DEAR DOCTOR:

At a meeting of the House of Delegates of the American Medical Association held in St. Louis, Wednesday, June 8, 1910, the following resolution was presented by Dr. Hubert Work, of Colorado:

"WHEREAS, the plan of organization of the profession carried to its logical conclusion means that every member of a county Society should be *ipso facto* a member of the American Medical Association, just as every member of a County Society is *ipso facto* a member of the State Society, and as it is the ultimate end of the plan that the American Medical Association should be co-extensive with the organized profession throughout the land, and as nearly, if not quite every state already has adopted the plan so far as making every member of a county Society a member of a State Society, therefore be it

"RESOLVED, that the President appoint a committee to draw up details for extending the plan to the American Medical Association, and to present this plan to the various State Societies for their consideration during the coming year, and to make a report at the next annual meeting of the House."

Dr. Alexander Lambers, of New York, moved as an amendment that the resolution be referred to the Board of Trustees, because it means a separation of the JOURNAL from the membership in a manner which involves the finances of the Association.

The amendment was seconded, accepted, and the original motion as amended was carried.

The Trustees have given this matter full consideration, and at a meeting held in Chicago on Feb. 3d, 1911, the following resolution was passed:

"RESOLVED, that the Board of Trustees refer to the various State Societies the question of the desirability of extending the plan of organization as represented in the foregoing resolution, and request that the various State Societies take action on this matter and report to the Board.

In accordance with this last resoultion I beg herewith to transmit the matter to your Society for consideration, and request that your report be sent to the Board of Trustees, American Medical Association, 535 Dearborn Ave., Chicago, Ill.

Very truly yours,
WISNER R. TOWNSEND
Secretary Board of Trustees A. M.A

DR. WILFRID HAUGHEY, *Secretary*,
Michigan State Medical Society,
Battle Creek, Mich.

"Since this letter was sent out a more definite plan has been under consideration, and a recommendation from this State Society is desired on that point. The plan is that members of the State Societies shall be *ipso facto* members of the American Medical Association, without the payment of any additional dues, but that those members who pay the Five Dollars subscription to the Journal of the A. M. A., shall be classed as "Fellows of the A. M. A." That, in brief, is the plan which is under consideration and the Council refers this matter to the House of Delegates without recommendation."

Moved by Dr. DuBois, Kent, that the report of the Council be accepted and the recommendations adopted.

Motion supported and carried.

Moved by Dr. Alvord, Calhoun, that the amendment to the Constitution as recommended by the Council be adopted.

Supported and carried.

Dr. Robbins, Wayne, moved the adoption of the following resolution:

"RESOLVED, That the number of Councilor Districts be placed at fourteen; that a new

district to be known as the 13th be establised, consisting of the counties of Antrim, Charlevoix Emmet, Cheboygan, Presque Isle, Alpena and Alcona; that a new district to be known as the 14th be established, consisting of the counties of Washtenaw, Lenawee and Monroe; that the Committee on Nominations nominate Councilors for these districts, the Councilor for the 13th district to be elected for a term of four years, and the Councilor for the 14th district to be elected for a term of six years, at the expiration of which terms their successors shall be elected for the regular term of six years."

The motion to adopt the above resolution was supported and carried.

Moved by Dr. Robbins, Wayne, that the House of Delegates of the Michigan State Medical Society approves of the general principles of the recommendation of the A. M. A., in that membership in the State and Country Societies carries with it membership in the A. M. A.

Moved by Dr. Baker, Bay, as a substitute, that the plan of admitting to membership in the A. M. A. which is recommended, meets with our approval, but that the use of the term of "Fellows" in connection with those who merely pay the dues which entitles them to the JOURNAL is highly objectionable.

The substitute motion was accepted by Dr. Robbins, supported and carried.

The Committee on Nominations, Dr. P. H. Quick, Chairman, submitted the following report:

Your Committee on Nominations begs to submit the following report:

For 1st Vice-President, Guy L. Connor, Detroit.

For 2nd Vice-President, Neil S. Mac Donald, Hancock.

For 3rd Vice-President, George C. Hafford, Albion.

For 4th Vice-President, George D. Carnes, South Haven.

For Representative in the House of Delegates of the A. M. A. for two years, E. T. Abrams, Dollar Bay.

For Alternate Representative, Arthur D. Holmes, Detroit.

For Councilor 4th District, A. H. Rockwell, Kalamazoo.

For Councilor 5th District, W. J. DuBois, Grand Rapids.

For Councilor 7th District, W. J. Kay, Lapeer.

For Councilor 10th District, C. H. Baker, Bay City.

For Councilor 13th District, F. C. Witter, Petoskey.

For Councilor 14th District, C. T. Southworth, Monroe.

The Committee would further recommend that the next Annual Meeting be held in Muskegon.

Signed by the Committee:

CHAS. T. SOUTHWORTH,
W. A. STONE,
J. D. BROOK,
F. B. MARSHALL.
PHIL H. QUICK, *Chairman*

Moved by Dr. Robbins that the report be accepted and adopted.

Supported and carried.

Moved by Dr. Alvord, Calhoun, that the Secretary cast the ballot of the House of Delegates for the officers named in the report of Committee on Nominations.

Supported and carried.

The Secretary cast the unanimous ballot of all present for the nominees and they were declared duly elected.

Chair appointed the following committee to draft suitable resolutions expressing our appreciation to our hosts in Detroit and report at the General Session.

DRS. F. C. WARNSHUIS,
C. T. SOUTHWORTH,
A. E. BULSON.

The Business Committee, Dr. W. K. West, Chairman, reported as follows:

"The Business Committee of the Michigan State Medical Society begs to submit the following report:

"We recommend the election to Honorary Membership of the names proposed by the Council.

"We recommend that the Legislative Committee continue their work, and endeavor to secure the passage of a bill, defining the practice of medicine, and containing no other feature, and another bill asking for state appropriation in support of the Board of Registration and no other feature.

"We recommend that the amendment to Section 10 Chap. IV, of the By-Laws be adopted,

"We endorse the action of the Secretary in publishing the names of delinquent members, and recommend the publishing in the May JOURNAL each year of the names of all members still in arrears April 15th, for current dues.

"We recommend that the financial report be

published in the Journal as soon as possible after auditing by the Council.

"We recommend that each County Society encourage the establishment of local milk commissions.

"We endorse the recommendation of the Council that the time of the Annual Meeting be changed to June."

Signed by Committee:

W. K. West, *Chairman*
J. A. Wessenger,
L. S. Ramsdell,
C. M. Williams,
F. B. Walker.

Moved by Dr. DuBois, Kent, that the report of the Committee be accepted and adopted.

Supported and carried.

Moved by Dr. Livingston, Schoolcraft, that a committee be appointed by the Chair to draft formal resolutions, expressing our appreciation of the action of President Taft in supporting and upholding Dr. Wiley in his pure food campaign.

Supported and carried.

Chair appointed the following committee:

G. M. Livingston,
L. J. Hirschman,
W. J. DuBois.

The following communication from the Wayne County Medical Society was presented by Dr. Wilson, Wayne.

Sept. 27, 1911.

House of Delegates Michigan State Medical Society:

At the meeting of the Wayne Co. Medical Society, on Sept. 18, a motion was carried that the delegates to the State meeting be instructed to apply for the appointment of a committee to study the question of protection of the Specialties, to report the same and to suggest such measures, which, in the course of time, may regulate the qualifications of the speciality.

R. C. Jamieson, *Secretary.*

Moved by Dr. Brook, Kent, that the communication be referred back to the Wayne County Medical Society.

Supported and carried.

Moved by Dr. DuBois, Kent, that the matter of Expert Testimony and Expert Witnesses be referred to the Legislative Committee with power to act.

Motion supported and carried.

The Chair declared the House of Delegates adjourned *sine die.*

Wilfrid Haughey, Secretary.

MINUTES OF THE MEETING OF THE MICHIGAN STATE MEDICAL SOCIETY

Sept. 27th, 1911.

The Forty-Sixth Annual Meeting of the Michigan State Medical Society was called to order by President Burr in Convention Hall, Pontchartrain Hotel, Detroit, at 10:00 A. M., Wednesday, Sept. 27th, 1911.

The meeting was opened by prayer, offered by the Rev. John McCarroll, of Detroit.

Representing the Mayor of the City of Detroit, Prosecuting Attorney Penniman delivered an address of welcome.

In behalf of the Wayne County Medical Society, Dr. H. O. Walker welcomed the Society to the City of Detroit. (See page 557.)

Dr. J. A. MacMillan, Detroit, presented a supplementary report of the Committee on Arrangements, which was accepted and ordered placed on file.

The report from the House of Delegates was read by the Secretary and, on motion, was accepted and ordered placed on file.

The address of the President, "Paranoia and Certain Paranoid Conditions in their Relation to the Public and the Profession," was read by the President, Dr. C. B. Burr. (See page 455.)

The Chair requested Dr. McGraw to escort Dr. Chas. H. Mayo, of Rochester, Minn. to the platform.

Dr. Mayo delivered an address—"Problems in Diseases of the Thyroid," with lantern slide demonstration. (To appear later.)

Dr. McGraw, Wayne: "I wish to express my extreme pleasure in the lecture that we have just heard. I know that in so doing I am expressing the feeling of every man and woman present in this hall, and I move that the thanks of the Michigan State Medical Society be tendered to Dr. Mayo for coming to give us the result of his experience."

Motion supported and carried unanimously.

The President tendered to Dr. Mayo the thanks of the State Society for his able address.

Past Asst. Surgeon A. M. Stimson, representing the Surgeon General of the U. S. Public Health and Marine Hospital Service, addressed the society on "The Laboratory in Public Health Work."

Dr. Rosalie Slaughter Morton, of New York, of the Public Health Education Committee of the A. M. A., addressed the society, outlining the work of that committee and what it had accomplished.

Dr. Hirschman, Wayne, offered the following resolution and moved its adoption:

"WHEREAS, the Council on Public Health Education, of the A. M. A. has requested the co-operation of the various state societies through their county units in this work, therefore, be it

"RESOLVED, that a committee be appointed from the Michigan State Medical Society, to secure the co-operation of the County Societies in carrying on the work of Public Health Education in connection with the A. M. A. Committee on Public Health Education."

The motion to adopt the resolution was supported and carried.

Dr. C. T. Southworth, Monroe, nominated Dr. D. Emmett Welsh, Grand Rapids, for President of the Michigan State Medical Society for the ensuing year.

The nomination was supported by several.

On motion the nominations were declared closed by an unanimous vote.

Dr. Stockwell, Port Huron, moved that a committee of three be appointed by the President, at his convenience, to enquire into the practice of dividing fees which is being carried on secretly and unknown to the patient, making the patient a commercial commodity, and that this committee make a report at our next Annual Meeting.

Supported by Dr. Manton, Detroit, and carried.

The session was adjourned to meet at 11:30 A. M., Thursday, Sept. 28th.

Sept. 28th, 1911.

The last session of the Michigan State Medical Society was called to order by President Burr at 11:30, Thursday morning, September 28th, 1911, at Convention Hall, Pontchartrain Hotel, Detroit.

The minutes of the previous session were read by the Secretary and approved.

The Chair appointed the following committee to consider the matter of "fee-splitting" and report at the next annual meeting;

C. B. STOCKWELL, Port Huron;
J. G. R. MANWARRING, Flint;
SCHUYLER C. GRAVES, Grand Rapids.

The report from the House of Delegates as read by the Secretary, was received and ordered placed on file.

The Committee appointed to formulate resolutions commending President Taft for his action in upholding and supporting Dr. Wiley in his pure food campaign, offered the following resolutions through its chairman, Dr. Livingston.

"WHEREAS, the members of the Michigan State Medical Society, in common with all other members of the organized Medical Profession, have watched with great satisfaction and pride, the work of Dr. Wiley in his campaign for cleanliness and honesty in the manufacturing of pure foods and drugs, and

"WHEREAS, obviously he has antagonized unscrupulous manufacturers in so doing and

"WHEREAS, great influence has been brought to bear by unholy alliances of interests inimical to the public good.

"THEREFORE RESOLVED, that the members of the Michigan State Medical Society, in convention assembled, most heartily endorse the efforts of Dr. Wiley and his associates in the good cause, and note, with a feeling of pride, the commendable action of Honorable William H. Taft, President of the United States, in supporting and upholding the work of Dr. Wiley.

"BE IT FURTHER RESOLVED, That we express our grateful appreciation to President Taft for his action in this matter as in every other measure pertaining to the public health."

Signed by Committee:

G. M. LIVINGSTON, *Chairman*
W. J. DUBOIS,
L. J. HIRSCHMAN.

On motion the resolutions were adopted unanimously by a rising vote.

Moved by Dr. Hirschman that the Secretry be instructed to telegraph these resolutions to President Taft today.

Supported and carried.

(Telegram was despatched by the Secretary immediately after adjournment.)

Dr. Warnshuis, Grand Rapids, Chairman of Committee appointed to draft suitable resolutions, expressing our appreciation of the hospitality of the Wayne County Medical Society, reported as follows:

"As the present session is drawing to a close it is but proper that we should take some action and recognize the princely manner in which we have been entertained by the members of the Wayne County Medical Society.

"Therefore, Mr. President, we beg to offer the following resolution:

"RESOLVED, That we, the Members of the Michigan State Medical Society, do hereby extend to the Officers, Committees, Ladies and Members of the Wayne County Medical Society, our hearty thanks and appreciation for their

courteous and brotherly hospitality, their ever ready willingness to make our sojourn comfortable and pleasant, their provision of such comfortable and convenient quarters for the sessions of our various sections and for the delightful entertainment provided for the ladies of the convention.

"AND FURTHER BE IT RESOLVED, That as a more permanent and fitting expression of our appreciation, the President shall appoint a Committee of three, who shall be empowered to provide a substantial testimonial, and cause the same to be deposited in the Club Rooms of the Wayne County Medical Society, and that the Council be requested to appropriate the sum of One Hundred Dollars to defray the expense thus incurred."

Dr. Warnshuis: "Mr. President, I move the adoption of these resolutions."

Supported by Dr. Southworth, Monroe, and carried.

Dr. Brook, of the Committee on Nominations, announced the result of the ballot for President for the ensuing year as follows: 563 ballots cast, all for Dr. D. Emmett Welsh, of Grand Rapids.

Dr. Welsh was declared duly elected President of the Society for the ensuing year, and, at the request of President Burr, was escorted to the platform by Drs. Longyear, of Detroit, and DuBois, of Grand Rapids, where, being introduced to the members by the retiring president, he graciously thanked the Society for the honor done him.

Adjournment was taken to meet in Muskegon in June, 1912, at the call of the Secretary through the Journal.

Wilfrid Haughey, *Secretary.*

ADDRESS OF WELCOME

H. O. Walker, M. D., President Wayne County Medical Society

"Mr. President, Members of the Michigan State Medical Society, and Ladies and Gentlemen:

It becomes my pleasant duty to welcome you in behalf of the Wayne County Medical Society, and the Medical Profession of the City of Detroit in particular.

In doing this the contrast of this enthusiastic audience comes to my mind, for it so happened that I was present at the first Annual Meeting of this Society in 1866. I was then an undergraduate, yet I was admitted to membership along with twenty-five others, upon the motion of my then beloved and since respected and revered colleague, Doctor Theodore A. McGraw.

The first meeting of the Society took place here in Detroit in the court room of the Supreme Court, which held its sessions at that time in Detroit.

The first list of officers contained such honored names as Stockwell, Platt, Jerome, Beach, Bonine Lyster, Ranney and Andrews, every one of them gone to his reward save one, Ranney, of Lansing. There were in all in attendance at that meeting fifty-eight (58).

Contrast this, if you will, with our present membership and organization—sixty (60) County Societies, all organized and active and with a total membership of 2094, so the secretary has just informed me.

But this is history—we live in the present not in the past, and why dwell upon painful data.

You are gathered together in your 46th Annual Convention and come to our beautiful city that you may meet together to exchange views, the better to enable you to combat the diseases of your fellow man—a more altruistic cause is given to the lot of no convention.

We have prepared a beautiful meeting place, and sought to supply a few diversions from your serious work.

Come then, enter into our life, and may your efforts toward the alleviation of the suffering of humanity, and the making of this City and State better as an abiding place for mankind be crowned with success.

ANNUAL REPORT OF THE COUNCIL

The Michigan State Medical Society comes to the metropolis, in this year 1911, with the largest and most harmonious membership in its history, and extends congratulations to its largest unit, the Wayne County Medical Society, for its enterprise in procuring the beautiful home where entertainment is so lavishly extended to its guests.

Dr. Connor

The pleasure incident to this meeting will be tinctured with regret to many of us, because of the absence of one whom we have long been accustomed to greet at our annual gatherings, and whose leadership and advice we have often followed with advantage to ourselves. The members of the Council, who began service in 1902, will feel, at this meeting, as though a member of the family were missing. Dr. Leartus Connor was born in January, 1843, in

Orange County, New York. Points regarding his life and work have already been published in the May JOURNAL, page 241, and in the June JOURNAL, pages 294 and 295. He was President of this Society in 1902, when the present form of organization was adopted, and was chosen the first Councilor from his District and the first Chairman of the Council.

In that capacity he traveled, at his own expense, all over the State, assisting in organizing County Societies. No journey was too long, no financial call too large, to receive from him an immediate response, if the medical profession was to be served by his efforts.

Doctor Connor's work throughout his long and useful life was largely constructive. The reorganization of the State Society is a model of his foresight. His former experience as editor of medical journals was a material aid to him as Chairman of the Council during the establishment of our JOURNAL. His work in the American Academy of Medicine was active, and always looking toward the betterment of the sociologic condition of the Medical Profession. At his death he was a member of the Council of the Academy. In the American Medical Association the present arrangement of the Section on Ophthalmology is a memorial of his good work.

In this Section, all papers to be read are printed and distributed to each member of the Section, in book form, two or three weeks before the meeting. At the meeting the paper is not read, but the author is given ten minutes to open the discussion, the discussions are all prepared before hand and are of great value.

TIME OF MEETINGS

Most of the State Societies holding fall meetings regularly, have their fiscal year end on the last day of the month preceding the date of meeting. When our fiscal year closes December 31, and our meetings are held late in September, our financial reports are rather old to furnish matters of live interest to the members at the annual meeting. If the policy of holding September meetings is to become permanent, obviously our fiscal year should be changed so as to end on the last day of August.

The time of holding our meetings should be carefully considered at this time. Fall meetings have not attracted the increased attendance that was anticipated when they were inaugurated. From the standpoint of the Editor of the JOURNAL they are objectionable in a high degree. The papers read at the annual meeting come to the JOURNAL for publication just as the County Societies are beginning their year's work, and, in consequence, the publication of many excellent papers is delayed beyond a reasonable time. Then, in the summer, there is a dearth of papers at a time when the annual meeting papers would naturally be published following a spring meeting. We trust that the House of Delegates will give this question careful consideration. We recommend that hereafter our meetings be held in the Spring or Summer.

MEMBERSHIP

In the report of the Council last year we suggested that all subscriptions and Society dues were properly payable in advance, and that, in order to comply with the postal laws, subscribers in arrears over four months would have to be dropped from the subscription list. The House of Delegates responded to this, recommending the following:

"Your Committee recommends, that on May first of each year the JOURNAL of the State Society be discontinued to all members in arrears, and that such members be reported to the Secretary of the American Medical Association as 'dropped for non-payment of dues.'" Report of Business Committee unanimously adopted by House of Delegates.

In years past, the County Secretaries have made efforts to collect dues. August 1st the State Secretary has communicated with the County Secretaries, sending them a list of delinquents and urging that collections be made. In September a special letter has been sent to each delinquent member. During the succeeding months more letters have been sent to the County Secretaries and, in December, a second letter to the delinquent members. From 100 to 200 members have still been delinquent at the end of December, and have been dropped from the list, after carrying them a year at a considerable expense to the Society, estimated at about $1.75 each.

Last year, on Sepember 1st, the State Secretary sent 488 letters to delinquents. On December 15th, he sent 230, and on December 31st, removed from the list, for non-payment of dues on 12 months delinquency, 166. Each individual, besides the notices through the JOURNAL, had received two letters from the State Secretary, and each County Secretary had received four letters regarding these delinquents.

The action of the House of Delegates last year

necessitated a change of method. Notice was continually issued through the JOURNAL that names would be dropped on May 1, if still in arrears. On March 10, each County Secretary sent a statement, prepared in the office of the State Secretary, to each delinquent. The May number of the JOURNAL contained a list of all members of the Society, with stars before those whose dues had not yet been received at the office of the State Secretary. This list was published to serve as a notice. Individual letters were sent to each delinquent early in May, and before the issuing of the June JOURNAL every name in arrears, 237 had been removed from the rolls. Many of these came back early, and before the 1st of July our total membership was more than it had been at any time during the previous year.

The present membership, September 1st, is 2076, a greater number than we have ever had before, as shown by the following table.

YEAR	DATE	MEMBERS
1900	Close of Annual Meeting	578
1901	Close of Annual Meeting	595
1902	Close of Annual Meeting	684

(Re-organization at Annual Meeting 1904.)

YEAR	DATE	MEMBERS	DATE	MEMBERS
1902			Dec. 1	1174
1903			Dec. 31	1653
1904			Dec. 31	1777
1905	Sept. 1	1728	Dec. 31	1790
1906	Sept. 1	1731	Dec. 31	1873
1907	Sept. 1	1677	Dec. 31	1892
1908	Sept. 1	1685	Dec. 31	1883
1909	Sept. 1	1697	Dec. 31	2021
1910	Sept. 1	1604	Dec. 31	1979
1911	Sept. 1	2076	Sept. 26	2094

We still have four months business during this year in which we, undoubtedly, will receive many new members, and others will be re-instated yet we have on September 1, 54 more members than the rolls ever have shown before. It would seem from this that prompt collections, and dropping from the list when collections are not received, is a good thing for the membership of the Society. There are now, September 1, 356 names on the books of the Secretary, of doctors who have been members at some time during the past three years, but have allowed their membership to lapse. An effort is being made to get as many of these back as possible. We believe that during the year 1910, when we were putting our Medical Defense plan into effect, it cost us many members. The year closed with a net loss of 42, but this present year our Medical Defense plan has been a positive aid to us in securing new members, and a material aid to us in re-placing on the list many old ones whose membership had lapsed.

Today, September 26th, 1911, there are 2094 paid up members of the State Society. In addition to this Wayne County has elected forty members who have not as yet been reported to the State Secretary, and they have fifty-eight applications for membership.

SOCIETIES RE-ORGANIZED

In December of last year, the Gratiot County Medical Society met at Ithaca with only a few in attendance. They voted to disband and gave as the reason, our Medical Defense plan. Several years ago the Societies in Alpena, Charlevoix and Cheboygan gave up the struggle. This year the State Secretary, in company with Dr. A. L. Seeley, Councilor for the 8th District, visited Gratiot county on May 25th, and succeeded in effecting a re-organization. Before they disbanded they had 19 members. As re-organized they have 14 members. The interest seems well established and Gratiot county bids fair to be a good active Society.

On May 26, in company with Dr. B. H. MacMullen, Councilor for the 9th District, the State Secretary visited Charlevoix in an effort to re-organize that Society. Charlevoix is unfortunately situated as regards transportation. There are four cities in the county, but it is very difficult to get from any one to any of the others and back in the same day. However, the interest seemed to be encouraging and a Society was organized. Seven doctors were present at the meeting, but on account of getting home some of them had to leave before adjournment. They all promised to come into the Society, and four of them have paid their dues for the current year.

On July 25, the Secretary met with 15 doctors of Alpena. The Alpena County Medical Society was re-organized. It was decided to have a meeting every month. Officers and Delegates to the State Society were elected and the Society now has 15 members with dues paid for the present year.

On the evening of the 25th of July the State Secretary met with seven doctors of Cheboygan where interest is also revived. The old jealousies which ruined the Society a few years ago seem to have entirely disappeared. The new Cheboygan County Medical Society has

eight paid up members. Thus four County Societies have been re-organized during the present year with a total membership of 41.

Macomb County Medical Society has established a more intimate relationship with Wayne County, all of their members having been elected associate members of the Wayne County Medical Society.

THE JOURNAL

We have published this year, for the first nine months, 20 pages of text less than last year, but the supplement to the May number contained 12 pages, giving us a net loss of eight pages. During the same period, we have published 26 more pages in the advertising forms but much of this has been devoted to Society matters. The earnings from advertising have been a little in excess of what they were last year, but not much, and these earnings are being cut down now, through strict elimination of all new advertisements not approved of by the Council on Pharmacy and Chemistry. We have lost some good advertising from firms thoroughly acceptable and have secured several new advertisers.

The JOURNAL belongs to the Society, is a part of the Society work, and should receive the support of the members. In order to be successful we must have advertising, but unless our members patronize the advertisers, and convince them that it pays to advertise in our JOURNAL, we cannot expect to retain the advertisers. This is a matter of reciprocity. Every dollar we spend with one of our advertisers, especially when he knows that we spend it with him, because he advertises with us, is a dollar spent indirectly in benefiting our own personal property, for it not only retains our advertisers on our list, but it aids in securing new ones.

FINANCIAL REPORT

Cash on hand, Jan. 1, 1910		$4047.16
Receipts From Dues	$3683.30	
From Adveritsing	2016.97	
Miscellaneous Sources	43.70	$5743.97
From Medico-Legal fees		2386.98
Total Receipts		$12,178.11

DISBURSEMENTS

Paid Cairman Medico-Legal Committee		$2386.98
67 Vouchers:		
Journal	$4182.41	
State Society	1686.51	$5868.92
Cash in Treasurer's hands Jan. 1, 11		3922.21
Total		$12178.11

NOTE.— The Treasurer's report includes a rebate from Dr. Schenck of $3.04 paid direct to the treasurer, therefore not appearing in this report, also $44.72 paid as a premium on bonds and $128.37 interest received, making the total receipts during the year, $5875.38 and leaving in the treasurer's hands on Jan. 1, 1911, $4008.90.

COMPARATIVE STATEMENT OF RECEIPTS

	DUES	ADVERTISING	MISC.	TOTAL
1904	$3282.50	$2025.92	$36.18	$5344.60
1905	3604.52	2005.30	16.32	5626.14
1906	3290.29	2297.78	25.81	5613.88
1907	3885.75	2158.92	26.55	6071.22
1908	4033.50	1786.53	16.00	5836.03
1909	4034.18	2073.71	16.94	6125.83
1910	3683.30	2016.97	43.70	5743.97

COMPARATIVE STATEMENT OF EXPENSES

	JOUR. EXP.	PTG. JOUR.	STATE SOCIETY	TOTAL
1904				$5224.91
1905	$4265.26	$3033.45	$772.42	5037.68
1906	4092.94	2791.95	1499.32	5592.26
1907	4193.06	2719.15	924.71	5117.77
1908	4226.98	2732.30	941.77	5168.75
1909	4263.45	2847.81	739.62	5003.07
1910	4182.41	2832.55	1686.51	5868.92

DETAILED REPORT OF EXPENSES

JOURNAL EXPENSES

Printing Twelve numbers	$2672.51	
Halftones, etchings, etc	160.04	
		$2832.55
Postage to Detroit members, two months, $16. B. C. members, 10 months, $11.30		$ 27.30
Postage, second class		98.94
Addressing, wrapping, and mailing		88.00
Correcting mailing list		79.85
Salary Editor		300.00
Advertising Commission		417.04
Postage		61.91
Stationery, etc		16.62
Office Supplies		7.50
Stenographer		180.50
Cabinet for back numbers		10.00
Wrappers, (one year's supply)		40.00
Circuit Court Record (Oliver Case)		15.50
Editor's Trip to Big Rapids (Post Office Matter.)		6.70
Total Journal Expenses		$4182.41

STATE SOCIETY EXPENSES

Printing Program of the Annual Meeting	$23.75
Printing Constitutions	18.00
Exchange at Detroit Bank	1.60

Salary Secretary		300.00
Secretary's Traveling Expenses		110.24
A. M. A. Directory		7.00
Postage		83.91
Printing and Stationery		49.79
Office Supplies		7.75
Stenographer		180.50
Telephone and Telegraph		7.15
Express		2.70
January Meeting Council		11.65
Treasurer's Bond		5.00
Incorporation of the Society		14.20
Honorarium Stenographer Council		50.00
Honorarium Secretary Council		50.00
Furniture Secretary's Office		25.00
Registration Annual Meeting		15.00
*Councilors' expenses 1910		135.15
*Printing (replenishing supplies)		72.94
*County Secretaries meeting		64.75
*Reporting Annual Meeting		250.00
*Moving from Detroit to Battle Creek:		
P. O. forwarding Second Class matter	$10.00	
Packing, Freight, and Exp	39.81	
Sec. Trip to Detroit	8.95	
Injury to Mailing List	15.50	$74.26
*Chargeable to other years:		
Dr. Church Reprints	4.50	
Binding old files	30.00	
Councilors' Expenses, 1909.	91.67	$126.17
Total State Society Expenses		$1686.51
Total Journal Expenses		4182.41
Total Expense		$5868.92
Total Receipts		5743.97
Making a deficit of		$124.95
Taking into consideration the Treasurers' net receipts of		86.69
Leaves a net deficit for the year 1910 of		$38.26

A comparison of this report with that of last year shows a decrease in the amount of money received from dues of $350.88. This is accounted for by the coincident that last year more of the County Secretaries sent in their reports before the first of January than did this year, also by the fact that last year's books were closed January 3, 1910, while this year's books were closed December 31, 1910. If our books had been kept open until the third of January, there would have been about $150 more received from dues and $40 from advertising. However, we felt it would be better to close the books at the end of the year and must, therefore, report a loss rather than a gain. By comparison with last year's report of the State Society expenses, the items marked with a star (*) are properly classed extraordinary, (appearing this year and not last year.) These items total $723.27, using up what would have been a profit of $598.82.

RECOMMENDATIONS FOR HONORARY MEMBERSHIP

The Council recommends for Resident Honorary Membership in our State Society the following:

Dr. Noah Bates, Flint;
Dr. R. N. Murray, Flint;
Dr. H. B. Landon, Bay City;

all of whom have been thirty years in practise of medicine and ten years members of the State Society.

The Council recommends for Non-Resident Honorary Membership:

Dr. Charles H. Mayo, Rochester, Minn.

Dr. Alexander R. Craig, Chicago, Sec'y of the American Medical Association.

W. T. DODGE, *Chairman.*

Sedalia, Missouri, September 30, 1911.

My Dear Sir:

The President has received your telegram of September 28th, and is delighted to know that his action with respect to Dr. Wilcy meets with the hearty approval of the members of the Michigan State Medical Society.

Very truly yours,
CHARLES D. HILLIS.
Secretary to the President.

WILFRID HAUGHEY, *Secretary.*
Michigan State Medical Society,
Battle Creek, Michigan.

October 2, 1911.

DR. WILFRID HAUGHEY, *Secretary.*
Mich. State Medical Society,
Detroit, Mich.

My Dear Doctor:

Through an unavoidable error, the Association of Military Surgeons did not send an answer to your telegram of September 27th, sending greetings and offering congratulations of your Society. This was not due to lack of interest in the subject, however, for the matter was immediately brought before our Association which passed resolutions thanking you for your

courtesy and reciprocating most heartily. Please take the necessary action to bring this to the attention of your Society this year, or if this is not practicable, at your next Annual Meeting.

Regreting that any delay should have occurred in this matter, I am, ,

Very respectfully yours,
CHARLES LYNCH, *Secretary*,
Major, Med. Corps, U. S. Army.

Chicago, Oct. 16, 1911.

DR. WILFRID HAUGHEY, *Secretary*,
Michigan State Medical Society,
Battle Creek, Mich.

MY DEAR DOCTOR HAUGHEY:

I am in receipt of your letter of the 13th, advising me that I have been honored by being elected an honorary member of the Michigan State Medical Society. I wish I could express my appreciation of the courtesy which the Society has shown me. I do, however, want to thank the State Society through you for this distinction, and will have to depend upon you for the form in which this appreciation is to reach the Organization.

Very sincerely yours,
ALEX R. CRAIG.

Washington, October 10, 1911.

DR. WILFRID HAUGHEY, *Secretary*,
Michigan State Medical Society,
Battle Creek, Mich.

DEAR DOCTOR:

I desire to acknowledge the receipt of your letter of the 4th instant, and to thank you for your expression of appreciation of the exhibit of the Service made at the last annual meeting of your society in Detroit, Mich.

Respectfully,
WALTER WYMAN,
Surgeon General.

October 14, 1911.

DR. WILFRID HAUGHEY,
Battle Creek, Michigan.

DEAR DOCTOR HAUGHEY:

Your letter of the 13th is received. I want to thank you, and, through you, the Michigan State Medical Society for the honor of being elected to honorary membership in that Society.

Sincerely yours,
C. H. MAYO

PROCEEDINGS OF THE THIRD ANNUAL MEETING OF THE COUNTY SECRETARIES' ASSOCIATION OF THE MICHIGAN STATE MEDICAL SOCIETY, HELD AT DETROIT, SEPTEMBER 26, 1911

The Third Annual Meeting of the County Secretaries Association of the Michigan State Medical Society was called to order at 2 P. M., Tuesday, September 26, 1911, at the Wayne County Medical Building, 33 E. High Street, Detroit, Michigan, by Dr. Daniel Conboy of Bad Axe, Vice-President. Dr. Conboy announced that the President, Dr. Chapman was unable to be present, and requested the Secretary to read a letter from the President. The Secretary read as follows:

DR. V. A. CHAPMAN: This Presidential address is going to be limited to a few brief remarks. I have already made a Presidential address to each Secretary by letter (see page 464) under date of Sept. 20th, in which I pointed out the importance of this meeting and urged your attendance.

I do not think that my statement in that letter that this is really the most important session of the Annual Meeting of the Michigan State Medical Society, as far as welfare of the Michigan State Medical Society is concerned, was too radically put. It lies with the County Secretary more than any other one officer in his local Society, to make or mar the success of that Society. And the success of the County Societies is absolutely necessary for the success of the State Society.

This meeting of the County Secretaries Association is for the purpose of bringing the County Secretaries into closer touch with each other. To hold a consultation, touching the welfare of the County Medical Societies as individuals and the Michigan State Medical Society as a whole. Every secretary present is requested to take part in this meeting, either through discussion of the papers, or by direct presentation of the problems of his own work, whether it bears upon the subjects of the papers or not. An opportunity for this will be given under "General Discussion." It is to be a heart to heart talk. If the County Secretaries present cannot solve your problem, Dr. Craig and Dr. Haughey will do so.

The work of the County Secretary is a labor of love. Unlike most labors of love I believe this one is usually appreciated. My experience of seven years as a County Secretary leads me

to believe that the members of the County Societies do appreciate the work that the County Secretary does in behalf of the Society.

The County Secretary's work is not easy. It does not consist simply in writing the minutes of a meeting and reading these minutes at the next meeting. He must be constantly on the job in various ways. Many of these duties will be mentioned in the papers which are to follow and I have no desire to lessen the volume of the essayists' thunder.

The first paper was presented by Dr. Charles E. Boys, of Kalamazoo, on "Factors which Increase Attendance and Interest in County Meetings." (See page 565.)

The Vice-President, Dr. Conboy, announced, that on account of the necessity of changing the time of the meeting of the Council to 4 P. M., the State Secretary, Dr. Wilfrid Haughey, would present his paper on "Relations of County Secretary and State Secretary," (see page 566,) so that he might be free to attend the Council meeting.

Following Dr. Haughey's paper, Dr. Alexander R. Craig, Secretary of the American Medical Association, addressed the Secretaries Association to the following effect:

Dr. Alexander R. Craig: The American Medical Association is now considering a plan of placing in legal form the condition which practically exists now in regard to the members and membership of the Association. The American Medical Association is practically two bodies, a business body and a scientific body. The American Medical Association, as a business body, consists of the component state Societies in the same way that the United States, as a nation, is composed of States. A member of the County Society, by the very fact of membership, is a member of the State Society. The House of Delegates of the American Medical Association, which is the governing body, is composed of Delegates elected by the State Societies and apportioned among the State Societies according to the membership of those Societies. Thus every member of the State Society, through his Delegate, has a vote in the business affairs of the American Medical Association. The Association is composed of another body, a scientific body, engaged in scientific work, and its presentation before the professional world. These two bodies, essentially independent, meet at the same time. The one is made up of the membership of all the State Societies and through them the membership of all of the County Societies in the United States, acting of course, through their Delegates. The other is made up of those interested in the scientific work and who are now called members. It is desirable to arrange the matter in some way that the members of the State Societies shall, without extra cost, be members of the American Medical Association, and that those who are now classed as members, and those interested in the scientific work, shall be classed in some different way so as to distinguish them from the members.

Regarding the suggestions made by Dr. Boys in his paper, it is true that a paper read before a meeting of only four or five doctors is apt to be a disappointment to all concerned. It is a hard thing to read a paper before such a small attendance. County Societies with so few members would probably do better work and develop more interest if, instead of inviting a man to come from a distance and read a paper before them, they would have one or more of their own members read a synopsis of some paper in a recent Journal. Several members could be assigned different Journals. Meetings could be held frequently and the program would be of vital interest.

Many or our larger Societies have a bulletin. Some of the smaller ones issue newsy letters printed upon a mimeograph, secured at an expense of $8.00 or $10.00, and mailed periodically to all the members. Such things are of value in working up the interest of the members. The doctors soon get to look for these letters. They want to know about Doctor so and so's new baby, and Doctor so and so's new wife. They wonder if the Secretary has heard of their new baby, etc. All these things tend to work up the interest.

Dr. H. L. Bower, Montcalm, next presented his paper on "Enthusiasm in County Societies." (see page 569), followed by Dr. R. C. Jameison, Wayne, "Value of Clinics at Society Meetings," (see page 568.)

During the reading of the last paper Dr. C. B. Burr, of Flint, President of the State Society, arrived. At this point he was called upon for a few remarks to which he happily responded, expressing his delight at again meeting with the County Secretaries, and recalling incidents in which he had visited different County Societies during the past year. He endorsed the plan of clinics at the Society meetings. He thought they were of great value, and that more attention was now being paid to them than ever before.

A general discussion was called in which the members could bring up any points they wished to discuss.

General Discussion

Dr. John A. Wessinger, Washtenaw: The present secretary, Dr. Haughey, knows what fighters we are in Washtenaw. We refused, at first, to join in with the State Society in the plan of Medical Defense. We have a large number of laboratory workers and men who are not in private practice and do not feel the need of this defense, but we have overcome all o that now and we have, at present, 79 member

who are enjoying all the privileges of the State Society, Medical Defense included, since that is an integral part of the Society. I found that things could not be done in a minute, and the Secretary has been very patient in waiting for us. We have no trouble in getting papers and we have some good ones. I think that the men of the smaller towns should not be forgotten in making up the programs. We have arranged to have one of the Mayo's and some Doctors from Chicago give us a clinic at the University. We never fail to have a dinner or a luncheon. It helps to bring the men together. We have no medical home such as the one in which we are now meeting, owned by the Wayne County Medical Society, but we have five different medical fraternities who are glad to have us meet with them which we do, and always invite in the senior students. We never think of having a meeting without a Stenographer to take down every word. There is almost always a stenographer among the Medical Students, who voluntarily offers his services. The value of clinics cannot be over estimated and we have them at most of our meetings. Occasionally we have a purely scientific meeting.

DR. C. M. WILLIAMS: Our Alpena County Medical Society has recently been re-organized, and we have a meeting every month, and practically always have a dinner or luncheon in connection. We find a considerable competition with non-medical men who are endeavoring to secure some medical work. We have frequent clinics.

DR. C. P. CLARK, Genesee: The increase in the membership of the Genesee County Medical Society is almost entirely due to the good work of our Treasurer, Dr. Miner. Our meetings are always best attended when we advertise that a lantern slide demonstration or some other special feature is to be given.

DR. H. N. BRADLEY, Bay: I realize that it is up to the Secretary in each Society to make the Society a good one. We have published a bulletin once a month this year. I understand that the Kalamazoo Academy of Medicine publishes a bulletin twice a month, but we have not been able to do that. I think that as a rule the Society is perfectly willing to let one man prepare the program and do the most of the work, but our members have been good in helping materially with our bulletin and program work.

DR. G. M. LIVINGSTON, Schoolcraft: We have ust six members in our Society but we go out and try to land every doctor that comes into the county. We have smokers, banquets, feasts, and often get our wives out and have a good time.

DR. C. S. COPE, Ionia, (retired): I come from Ionia County and I want to say that we had no stars on our list. Every member has paid his dues and just four words have accomplished this work—Acquaintance, Companionship, Science and Entertainment.

Moved by Dr. Boys that the Secretary of this Association be a clearing house for desirable papers. Supported and Carried.

The election of officers resulted as follows:

PRESIDENT, C. E. Boys, Kalamazoo.

VICE-PRESIDENT, G. M. Livingston, Schoolcraft.

SECRETARY, Chas. T. Southworth, Monroe.

W. C. GARVIN, *Secretary.*

OFFICIAL CALL OF MEETING

Muskegon, Michigan, Sept. 20, 1911.

TO ALL COUNTY SECRETARIES,

Dear Doctor:

You probably have full knowledge concerning the meeting of the County Secretaries Association which is to be held in Detroit, Tuesday afternoon, September 26th, 1911, at Wayne County Medical Bldg., 33 E. High St., at 2 o'clock. Please, Doctor, make such an effort as may be necessary to insure your presence at this meeting. This meeting occurs in the afternoon of the day *preceding* the beginning of the Annual Meeting of the Michigan State Medical Society.

This date was selected for the County Secretaries meeting as being perhaps the most convenient for all concerned. You will want to attend the State Meeting, of course, Doctor; and you will only have to come half a day earlier in order to attend the County Secretaries Meeting also.

While this meeting may seem insignificant to the profession at large throughout the state, yet it is really the most important session of the entire State Society Meeting when considered from the standpoint of the welfare of the Michigan State Medical Society.

The County Secretaries are the real pillars of the State Society. When every County Secretary does his work properly and faithfully, with the tact which he necessarily must have, there is little left for the officers of the State Society to do; and the success of the State Society is assured. These meetings of the

County Secretaries Association do a great deal of good in many ways. After attending one of these meetings, the County Secretary is fully encouraged to go on with his work in a thoroughly earnest manner for at least another year.

Whether *enrolled* as a member or not, Doctor, you are a member of the Association. You can't get out of it. The fact that you are a County Secretary makes you a member.

Come to this meeting, you will never regret it.

Fraternally yours,

V. A. Chapman, *President.*

FACTORS INFLUENCING ATTENDANCE AT MEDICAL SOCIETIES

C. E. Boys, M. D., Secretary Kalamazoo Academy of Medicine.

Most practitioners of medicine are too busy to leave their work for the purpose of attending any meeting, unless that meeting contains something of merit or profit. Whether they attend meeting or not therefore depends upon the program. This, in the writer's mind, is of first importance, and demands serious consideration on the part of the program committee.

The general make up of the program, perhaps, should vary somewhat with the places. In the larger cities these can be made up of local talent largely, or entirely, but, the smaller the society, the more difficult it is to get a program of local talent which will be attractive to the whole membership. No doubt but that there are, in every medical society, those members who believe that no one in their number is in any way capable of adding to their stock of knowledge or experience, and as a result will stay away when a local talent program is given. The contrary argument then comes up that the local members can be developed to the best advantage by having only local members participate.

Some argue that outside talent should be employed exclusively, as the membership is in that way more liable to get the best information. To the writers' mind, however, this is a sad comment upon the abilities of local members.

In Kalamazoo the program committee has taken a neutral ground with reference to the selection of numbers for the program. We have found that, at least, one outside number at each meeting, from someone of prominence, acts as a good stimulus to the attendance. Two other numbers from the members gives ample opportunity for the development of local talent. In fact, if an outside man is to appear, the local man is most liable to work hard in order that his paper may have a favorable comparison.

On a few occasions our Society has invited a neighboring Society to offer a complete program for us. In the three of four instances of this kind the meetings were very good in attendance and interest.

Once a good program is obtained the next essential to a good attendance is a wide and repeated publicity. Many means of bringing this about are available. The local press is usually glad to get the programs for news items. This is usually the first announcement. Then the program committee sends around the programs on some printed form. In our local Society we have recently changed from the post card notification to the publication of bulletin. At first glance, this may seem a large undertaking, but the enterprise really settles down to two points; first, a little advertising, and second, a little more time on the part of the program committee. It is really surprising how easy it is to obtain advertising, as many have commodities or services which they want to sell to physicians, or through them. The extra time taken on the part of the committee is well repaid.

The Bulletin keeps the whole Society in touch with what is being done. There is always a percentage of the membership which, for one reason or another, cannot attend all the meetings. The bulletin helps fill in these vacancies for those members by sending them a report of what was done at the last meeting, and announcing what is to come at the next one. It undoubtedly provokes interest and gets more members out. Since the publication of the Bulletin in our Society, we have had a larger attendance twice a month than we had before, when we met only once a month.

One factor of importance with reference to the attendance is to hold the meetings when the largest possible number of members can get to it with the least loss of time and work. This will vary with the make up of the Society. In the Kalamazoo Academy of Medicine we find that the only practicable time for meeting is in the afternoon, this being determined by the various train schedules.

The promotion of social intercourse also influences the attendance. With us, informal dinners, or lunches, have proven of most value. These have been held usually at regular meal hours and in honor to the invited guest for the

day. It not only makes an outsider feel more at home, but has a wonderful influence in banishing personal jealousies locally. The more we kick shins under the festive board, the less we blacken each other's eyes in practice.

We have found that forgetfulness on the part of members has been the cause of a considerable loss in attendance. To counteract this we have recently had the members on the Kalamazoo telephone exchange called up on the day of meeting, to remind them. This has increased attendance perhaps ten per cent.

Judging more from observation than from experience, we believe that the larger the society the better will be the attendance proportionately. There is always more dignity and interest among the members, and good men will more readily consent to take time to appear before a large membership than before a small one. For this reason I believe that the present county system is at fault except in those counties which contain large cities. The good men from three counties associated in one society are more than three times more efficient than three societies with small memberships.

THE RELATIONS OF THE COUNTY SECRETARY AND THE STATE SECRETARY

Wilfrid Haughey, M. D., Secretary Michigan State Medical Society

The subject of this address may sound old, or too specific, but it opens up a part of our Society work that is important. To the Secretary, more than to any other person, falls the burden of keeping up a Society's work and interest. He has to act as go-between from one member to another; to him come complaints, questions, requests. He must be a veritable storehouse of information concerning all matters in which the Society is interested. He must make arrangements for the meetings and largely prepare the programs. If the meeting is a failure, much of the blame is apt to fall to the lot of the unfortunate Secretary, but if it is a success "Oh, well, we have a good Society, one that always does its work."

Our Medical Societies are organized differently from most societies. The County Medical Society is the unit in our scheme. The State Society is a confederation of the County Societies, and, to an extent, the American Medical Association is a confederation of the State Societies.

Each County Society does its own individual work independently. It meets, has its Scientific programs, and transacts its business. All this it does as an independent Society. But there are certain things, many of them, that all County Societies are interested in, not so much as County Societies, but as a part of the Medical Profession. These things are delegated to the State and National Societies. The larger unit can better handle these problems.

Our State Society is now composed of sixty County Societies, of which one has three members, the others being all in a more or less prosperous condition. Our County Societies through the State Society, or our State Society, however one wishes to consider it, is carrying on a certain amount of work in Michigan for the benefit of our members. We are conducting an annual meeting, defending our members from civil malpractice suits, and publishing a monthly Medical Journal. To do this all County Societies and the State Society must co-operate. We have to fix a certain amount of dues to the State Society, to give us funds to carry on the work. We must also have information of one kind and another from the different parts of the State. This throws the State Secretary and the County Secretaries into a close relationship.

DUES

The collection of dues is a bug-bear to every one who has the job. My predecessor had much difficulty with this matter as witness his remarks at the first meeting of this Association, Sept. 30, 1908:

"One of the most difficult tasks of the State office is to keep up the membership. At the present moment there are 300 who have not paid for 1908. On September 1st, we sent a letter on a special blank to each County Secretary with a list of those who paid for 1907, and who had not paid for 1908. It is especially noted on this blank "please return promptly with notes as to resignations, removals, deaths and possible errors." How many do you suppose have come back? Twenty-two out of 55. On nearly all returned are notes of resignations, removals and deaths—the first notice to that effect which we have had. In a few instances, misspelled names have been noted. In one instance failure to credit dues was found. On October 1st, individual notices will be sent delinquents. In this way we will get in 200 of the 300 unpaid members. Each year about 100 fail to pay, despite strenuous efforts."

At the second meeting, Jan. 13th, 1910, he had this to say:

"In July or August a list of all delinquents is sent to the County Secretary, with a request that he attempt to get in their dues at once. This list is checked over and returned. From it a few errors, resignations and deaths are re-

corded. In September, after our annual meeting, a letter is sent to the individual delinquent, calling to his attention the omission, and asking him to remit to his County Secretary. This has had, during the past four years, excellent results. In December another letter is sent, and those whose dues have not been received by December 31st are dropped and their names sent to the A. M. A. as ineligible to membership."

Last year we used practically the same system, and, on September 1st, sent 488 letters to delinquent members. December 15, we sent 230 letters to delinquents; second notice. On January 1st, 1911, 166 names were removed from the lists for non-payment of dues after being carried for a year. This is a big expense as the expenses of running the society, exclusive of defense feature, were $5,868.92 during 1910. This apportioned among the 1979 who paid and 166 who did not (2145 in all) would be about $2.73 apiece. Of course it is not fair to claim that each one of these 166 delinquent members cost us $2.73 during the year, but the cost of maintaining the Society and printing the Journal is contributed, very materially, by the membership, and I would estimate that each one cost us at least $1.75, a total of about $290 for the delinquents, a considerable item. This shows from the financial standpoint, why members should be urged to pay, and to pay promptly.

But this year there has been another potent factor. The post office department has been active in studying the second-class rating. The regulations say that subscriptions to monthly periodicals must be renewed within four months of an expiration, or that article of mail cannot be mailed at the second class rate. For our Journal this means that subscriptions (dues) must be collected by May 1st, each year.

When our Medical Defense plan was adopted provision was made that a member, whose dues had not been paid by June 1st, should not be defended for any case, the cause of action of which arose while in arrears.

Last year the House of Delegates instructed the Secretary to remove from the list and report to the A. M. A. as dropped, all whose dues had not been paid by May 1st. These instructions have been strictly enforced this year, with a net gain in membership at the present time, but in May we removed 237 from the list. Many have returned, and many new members have been added.

Our method this year may have appeared a little harsh, but what else could we do? Instructions from the House of Delegates were positive. The United States Post-office instructions were positive, as was a letter from our Postmaster; and when the matter was placed before him, the President of the Society would not sanction stretching the instructions of the House of Delegates in the matter of removing names from the list.

Reports

During the year monthly report blanks have been prepared for the County Secretaries' report to the State Society as provided for in the By-Laws. This report contains places for names and remittances, removals, deaths, resignations, etc., and only a comparative few of our sixty secretaries send their reports monthly.

The State Secretary has to report monthly to the A. M. A., giving the same information, and more, and is at a loss to obtain it, unless the County Secretaries' reports are received. I would urge that they be attended to a little more carefully in the future. It only takes a few minutes each month to make out these monthly report blanks. The information contained in them enables us to keep our mailing list and membership list up-to-date. It also tells us of the new members and of the members who have died. Through the use of these lists we are enabled to serve the American Medical Association in the same manner.

The Journal

We are endeavoring to make the Journal just as interesting to our members as it is possible. It is worth every cent of dues our members pay. It gives the original papers read at the annual meeting of the State Society and as many as possible of the papers read at the County Society meetings. It is the official organ of the County Societies in just the same degree that it is the official organ of the State Society. We wish all of our County Secretaries and all of our members would realize this fact.

The Journal has a department of County Society News which is open to every County Secretary for reports of County Society meetings and County Society affairs.

We are especially desirous of having short abstracts of the papers read before the County Societies. In this way members will be encouraged to read papers before the County Societies, because in the Journal the audience is extended from the few who attend the County Society meetings to the many who receive the Journal. And this is as it should be. When

a man reads a paper before a branch of the State Society he really reads it before the State Society, and if there is any merit in the paper he is entitled to have the paper at least abstracted in the JOURNAL. Several of our County Secretaries are giving us most excellent Society reports as you will notice in that department of the JOURNAL. We hope that all of the County Secretaries will join in and help make this department a valuable one.

Another thing: One of the greatest criticisms of our JOURNAL is in its lack of news items. It would be a distinctive aid to the Editor if each of the County Secretaries would place a little envelope on his desk addressed to the State Secretary and in it, from time to time, place whatever news clippings or news items come to his notice. Once a month, between the first and the tenth, these items could be mailed to the State Secretary when they would appear in the next issue of the JOURNAL. Handled in this way news items could be easily collected and this criticism of the JOURNAL would be removed. At present it is uterly impossible for the Editor to collect these items. Occasionally he gets an item which he could print but for some question as to its responsibility. If these items were sent in by the County Secretaries all such questions would be removed.

There is one more question which I wish to bring to the attention of this body and that is the adverstising in our JOURNAL. The JOURNAL is the property of the Society, and, as such, is the property of the individual members of the Society. The advertisers in the JOURNAL materially help to pay the expenses of the publication. They are entitled to some return for their money. The JOURNAL cannot do business long without them. Every dollar paid us by an advertiser is just $1.00 less that our members must pay as dues. Every dollar paid an advertiser in the purchase of goods contributes a certain percentage toward our JOURNAL. The advertiser must advertise, and if he does not do so in our JOURNAL, he will in some other. It is to our advantage then, to patronize those who advertise with us, rather than those who advertise with some one else, and it is decidedly to our advantage to let the advertiser know that our patronage is on account of the fact that he advertises with us.

In closing I wish to congratulate and thank the County Secretaries for their good work and co-operation this year in carrying into effect the dictum of the House of Delegates.

THE VALUE OF CLINICS AT THE COUNTY SOCIETY MEETINGS

R. C. Jamieson, M. D., Detroit, Secretary Wayne County Medical Society.

In the course of the past year, during which I officiated as secretary of the County Society, the question of attendance was brought prominently before me, as well as the question of disinterest in the meetings, and I believe that one cause would be greatly responsible for both, namely: that at the ordinary meetings the papers and subjects are usually too uninteresting, or too technical, to draw a large attendance and hold their attention. It would be difficult to say whether it is the fault of the committees in charge of the program in permitting such papers to be read, or the fault of the writer in choosing his subject, but no matter upon whom the blame rests, the speaker can hold his audience far better if he has some means of illustration, whether it be photographs, instruments, stereoptican, or patients themselves. How often do we listen to a long dissertation consisting of case histories and practically little else, and nothing to illustrate the paper?

A listener will also be interested in something which he can examine, and see for himself the points which the speaker wishes to emphasize and, for example, if it should be desired to report a case with some rare internal lesion, how much better it is to have the patient there to be examined by all, than merely to report that such a lesion had been found in that patient. Not only is there increased interest shown, but there is an even greater increase in the value of the paper by having the various points demonstrated on the subject. The observer, instead of trying to remember certain things, which would, perhaps, have little meaning without having something to associate with them, will now think of the spoken facts in connection with the lesions which are demonstrated to him and which he is able to find for himself in other future cases. So it is in medicine as in all other lines—any method of proceedure is more easily imitated by observation than by memorizing and trying to follow some written plan.

The increased value of clinical material extends not only to one's audience, but to the speaker as well, for in any case which one is to exhibit, far more care and time are devoted to a thorough and complete examination, the details are more carefully worked out, and more attention is given to the presentation of the

case, so that, after such a demonstration, the speaker has a far greater command and knowledge of the disease in question than he had before. To say that the proper exhibition of a patient, with complete history and physical examination given also, is instructive to a listener, is superfluous, as who is there who will not be on the lookout for such cases in his own practice which had probably escaped his notice before. Clinical teaching is becoming recognized more and more as the best method of teaching observation and diagnosis, and the great medical centers of Europe pay far more attention to this means of instruction than to any other.

Take, for example, the annual clinic week, conducted by the Detroit College of Medicine which draws several hundred men from various states to increase their knowledge by observation of patients at these clinics. While there are lectures given at this time, the greater attendance is at the clinics where patients are exhibited, and where something tangible is given to those in attendance to remember when they are back with their own patients. The popularity of these clinics is growing every year, and I believe it is due to the fact that more celebrated men are giving those clinics, and are being provided with better material for demonstration of the unusual types of disease in the different branches of medicine.

Why is it that physicians go to the larger centers of population for their post graduate work? Is it on account of lectures they will hear, or demonstrations of diagnosis and treatment on living subjects? I think the latter is the reason in almost every instance, but I believe that the regular County Society meetings could be made to be post graduate clinics on a small scale. They would not necessarily need to be on a large scale, as the proper presentation of a few cases would easily occupy a whole evening. If such a plan could be followed, having such a clinical evening, from one to three or four times yearly,much good would be derived, not only from personal observation of the cases, but also from the free general discussion which invariably accompanies such a clinic.

For example: During the past year the staff at Harper Hospital has had a number of clinical evenings which were well attended and from which much profit was derived, a number of men being asked to present cases each in his particular line. Such meetings would have been a complete failure if the clinical side had not been brought out, and, in conclusion, let me state that I believe the clinical method of instruction to be the one which offers most to a student, whether he be still an undergraduate, or a practitioner with years of experience.

ENTHUSIASM IN THE COUNTY SOCIETY

H. L. Bower, M. D., Greenville, Secretary Montcalm County Medical Society.

Enthusiasm means an ardent zeal in respect to some object or cause. There is no cause of an earthly nature which demands more zeal in its propagation than in the medical profession. It has to do with so many things which the medical man only can attend to.

The present age is noted for greater promotion of medical science than any prior age. It is in the memory of older physicians that the cure of disease was the main thing looked after. Now it is what can be done to prevent disease. As an illustration we will say: A person is prostated with the typhoid fever. The first visits may be devoted to diagnosis of the malady. And when it is decided that the case is a real typhoid, the first question considered is, "How did the patient contract it? and where?" A search is instituted and perhaps the cause is discovered at the very door. Prompt steps are taken to annihilate that cause, and thus many are saved from the disease. This we may say is conservation work on the part of the physician. This is conservation of which we hear so much these days as applied to the saving of forests, water power, etc. But this is a conservation which far out-stretches the saving of forests, etc., inasmuch as the conserving of health is a greater inheritance than any worldly blessing.

It takes enthusiasm to bring about the very best work of the physician. The County Medical Society is the first stepping stone to the attainment of the end just mentioned. We may liken our organized medical societies to the magnificent school system of Michigan. First, the district school. In it the pupil is so trained that when he graduates he is prepared to enter high school, where he is further trained so that when he graduates he is prepared to enter the University with honor. So becoming a member of the County Society, he also becomes a member of the State Society. Then he may enter, if he will, the A. M. A., where he is surrounded by medical talent not to be eclipsed by any country throughout the world.

Doubtless we have all heard it said by certain physicians, "What good does it do me to join the Society? I cannot learn anything there."

Well, I am always sorry for one who cannot learn anything from the association of his fellows. I heard it said once by a doctor that he had no interest in the papers presented, because they are merely a re-hash of what is gotten from the books. I said to myself, "You might learn something from the re-hash." I may say in this connection that that man was not an enthusiast in his profession anyway.

When quite a young man, I attended an academy whose principal was a remarkably fine scholar. I have heard him say that his rule was to re-read the lessons which he was about to teach his class, although he was perfectly familiar with them. This showed enthusiasm in and devotion to his work. This man, in his later years, was an honored member of the faculty in the great Cornell University. I mention this to show what enthusiasm the man had in his work, and inspired his pupils to greater endeavor in their work.

Enthusiasm in the work of the County Society implies a few cardinal things which ought always to be sought after. First, membership. One should have a great desire to become a member. He should feel that he cannot be without it. He should be there, not for selfish purposes, but for improvement, and to cultivate a friendly feeling in the profession. He should be there to advise and willing to be advised. He should be there whenever possible to help to keep the Society going that it may be a lively Society. A lively Society is always enthusiastic. Such a one is likely to be harmonious and, therefore, a great pleasure to be identified with. Moreover, it tends to develop men and to make them better physicians.

Enthusiasm also tends to develop the social nature. To this end an occasional meeting should be given up to sociability. A good way to promote sociability is to have a county picnic occasionally, and take the wives and sweethearts and the children, it may be, and have a good time. In my county, Montcalm, this social gathering has been had for several years. In short, it is an established part of the year's program. Three years ago Ionia and Montcalm formed an alliance and a joint basket picnic has been held every summer. And this year the druggists and dentists have been invited to come in. They responded magnificently. The result was that we formed a three "D" society—doctors, dentists, and druggists. And in the years to come, we expect to have a mid-summer gathering, which will be a jolly thing and a joy forever.

COUNTY SOCIETY NEWS

CLINTON

The Clinton County Medical Society held its Annual Meeting October 5, in St. Johns, and elected the following officers: President, C. B. Porter, of Elsie; Vice-President, E. L. Martin, of Maple Rapids; Secretary-Treasurer, J. E. Taylor, of Ovid; Local Member Defense Committee, W. A. Scott, of St. Johns. J. E. Taylor was elected Delegate to the State Society and E. Schemer, Alternate. A paper read by Dr. Porter on "Puerperal Sepsis," was enjoyed by all, and brought out a spirited discussion participated in by every member present. The Society is in a flourishing condition and received two new members, both transferred from Huron County Medical Society. Dr. F. E. Luton, President of the Huron County Medical Society at the time he removed from that County, located in Maple Rapids, and Dr. G. Bellinger located in Bath. Every member having paid his dues during the past year is in good standing. The next meeting will he held November 2, 1911.

JAMES E. TAYLOR, *Secretary.*

KALAMAZOO ACADEMY OF MEDICINE

The Mayo meeting, September 25, was a banner event in the history of the Kalamazoo Academy of Medicine. In spite of the threatening weather, the attendance went over the one hundred mark, among those present being visitors from surrounding towns and cities.

Owing to the size of the attendance, and the small amount of business which was waiting, the usual routine program was set aside and Dr. Mayo introduced at once, by Dr. A. I. Noble, Chairman of the Social committee, acting in the place of President Crosby, who was unable to be present.

Dr. Mayo gave a very scholarly paper, particularly void of ideas which we have read else-

where, and which taught us the importance of embryology and comparative anatomy as related to the study of medical sciences. This paper brought forward more vividly than ever the role of the ductless glands in health and disease. Any attempt to review the paper would be futile, in light of the fact that so many were present to listen to the Doctor himself.

Forty-four doctors and doctors' wives assembled at the American House on the evening of September 25, for an informal dinner with Dr. and Mrs. C. H. Mayo. After a brief time in making acquaintances in the parlor, all present retired to the dining-room, where an elaborate menu was served on tables specially arranged for the company. After dinner Dr. Mayo was called upon for an informal talk on goitre, to which he made an interesting and instructive response. Many compliments were paid the hotel management for their excellent service.

The attendance and interest in the Academy have been steadily growing for some time past. Since the publication of the Bulletin, the attendance has been better twice a month than it was once a month before that time. A wide publicity for good programs undoubtedly explains the increased attendance. The manner in which the Academy rooms were packed at the last meeting suggests that we are in danger of having to move to larger quarters for our meetings.

C. E. Boys, *Secretary.*

KENT

The Kent County Medical Society resumed its regular meetings after the summer recess on October 11th, 1911. The scientific program consisted of several case reports and exhibition of clinical cases, and a paper on "Heredity" by Dr. R. H. Spencer. The program was intentionally made a short one, as arrangements had been made for a Smoker at the Pantlind Hotel, the Society being the guests of the Bulletin. Seventy-eight members were in attendance at the Smoker and from 10 o'clock on to midnight the members mingled among each other, enjoying a cold luncheon, a fragrant cigar, while story telling brought forth many a hearty laugh.

The profession of Grand Rapids extended a complimentary banquet to Dr. J. B. Griswold at the Pantlind Hotel on Thursday evening, October 26th, in honor of his services to his county, state and profession.

Dr. P. J. DePree, formerly of West Olive, Ottawa county, has located in Grand Rapids.

Dr. T. C. Irwin and Dr. F. J. Lee are spending four weeks at Johns Hopkins Hospital, Baltimore Md.

The operating rooms in Butterworth Hospital have been entirely remodeled and equipped with the latest furniture. A doctors' retiring room with shower baths has also been installed.

Dr. R. J. Hutchinson has been elected Chief of Staff of Butterworth Hospital. Dr. G. L. McBride was elected Vice-Chief and Dr. R. Maurits Secretary. The monthly staff meetings have been made more interesting by the conducting of a clinic by one of the members of the staff.

F. C. Warnshuis, *Secretary.*

LAPEER

The Lapeer County Medical Society met at Purdy's Landing, Lake Pleasant, July 11, 1911, for a basket picnic and social good time. Twelve members of the Society were present.

Dr. Guy L. Connor, of Detroit, was present as guest of the Society and read a paper on "Acute Poliomyelitis." This paper was a thorough and exhaustive exposition of the subject as understood today. Dr. H. E. Randall read a paper on "Cancer," which was a masterly rendition of the subject. Dr. W. J. Kay gave an excellent paper on "Optimism" which was enjoyed by all. Dr. Frazier's paper "Camp Sanitation" was fine and interested the members very much.

After spending an enjoyable afternoon the Society adjourned to meet at Lapeer, October 10, 1911. C. A. Wisner, *Secretary.*

ST. JOSEPH

The St. Joseph County Medical Society met at Oakwood, Klinger Lake, August 16, 1911. The attendance was small. What it lacked in members was made up in general interest. In addition to our own members we had the pleasure of having Drs. Haughey, of Battle Creek, Flemming, of Elkhart; and the Wade Bros. of Lima, with us. Dr. Williams was chosen President-Pro-Tem; Dr Moe, of Sturgis, Sec'y Pro-Tem. Dr. Cameron was elected delegate to the State meeting and Dr. Moe, Alternate. Dr. Haughey gave us an interesting talk, after which general discussion took place, all taking part.

J. R. Williams, *Pres. Pro.-Tem.*

WAYNE

On Monday evening, September 18th, before an audience that comfortably filled our too small auditorium, the retiring President, Doctor Angus McLean, read an instructive exaugural address. He reviewed the year's work, contrasted the number of members over the year previous, and made a number of valuable suggestions.

The Secretary, Doctor R. C. Jamison, read his report for the past year. He showed a total of 143 members received into the Society for the year, and a balance in the treasury on September 1, 1911 of $393.08.

The Secretary of the Building Committee, Doctor F. B. Tibbals, made a verbal report in which he stated that Fifteen Hundred Dollars had been paid upon the building since the last meeting in June, leaving our indebtedness now at Forty-Five Hundred Dollars. There is though now in the treasury about Five Hundred Dollars that might be applied on the debt. Doctor A. D. Holmes, Chairman of the Board of Directors spoke also along financial lines and suggested that even though our prospects were bright might it not be good business acumen to wait another year before launching the new auditorium idea, that our present ideas might not be after all satisfactory in view of our rapid growth in numbers and prospects. His remarks brought out the fact that about three hundred of our membership had not yet participated in the building fund.

Doctor R. C. Andries, the retiring editor of "The Weekly," in a report that brought universal applause, showed that the Wayne County Medical Society Weekly had been published at an expense of Five Hundred Twenty-Eight Dollars and that when his books close will show a profit to the Society of Ten Dollars and Seventy-Four cents. Doctor Andries introduced a motion which was carried unanimously by the Society to the effect that in the future the readers of papers make abstracts themselves of their productions,the better to aid the work of the editor of the weekly. This will redound to the benefit of the respective speakers quite as much as to the editor, however, in that it will avoid ambiguity in their abstracts.

Doctor Emil Amberg spoke of the advisability of bringing before the Michigan State Medical Society, at their approaching meeting, the question of the propriety of the regulation of qualifications of Specialists, and suggested that the Society choose its method or manner of so doing. At the suggestion of Doctor J. H. Carstens, the matter was referred to the Board of Trustees with instructions to act.

Doctor R. E. Mercer introduced a resolution relative to the rag-weed nuisance and its annoyance to Hay Fever patients. He asked that the Society lend its influence in having the proper authorities give it the attention it demands. The resolution was put in the form of a motion and carried by the Society.

Doctor Charles W. Hitchcock spoke of the influence of cold dry atmosphere on some sufferers who had tried it this season, and of the offer of a certain refrigerating plant to gratuitously aid such persons.

Address of the Retiring President, Dr. Angus McLean.

In assuming the position of President of the Wayne County Medical Society one year ago, I felt that a great honor and privilege was conferred upon me. Today, while retiring from this office, I feel more than ever proud to have been chosen to preside over the deliberations of this Society. I desire at this occasion to express my thanks for the honor you have conferred upon me, and I assure you that I feel a keen appreciation of the compliment you have paid me. Throughout the year I have always endeavored to perform the duties connected with this office to the best of my ability, and I sincerely hope that my actions have at all times met with your approval.

The past year will ever be memorable in the history of the Wayne County Medical Society. The Medical Home with its library, so long the cherished hope of the Society and for which the officers of past years and especially my predecessor, Doctor A. D. Holmes, have labored incessantly, has now become an established fact. This home and library during its short existence of one year has more than surpassed the expectations of even the most enthusiastic and optimistic. The fear of putting a burden and debt upon the Society from which in would with difficulty extricate itself has entirely vanished. Besides the furniture and other equipment, over three-fourths of the entire building has been paid for. There only remains a debt of $4,500, and if we continue in the coming year as we have in the past, the end of this year will see the whole debt eradicated, with a surplus in the bank to our credit.

Our library has also made rapid strides. It is no longer a miniature institution. In Septem-

ber last, about 5,000 volumes were received from the city library. To this number 7,000 volumes have been added during the year, making a total at the present day of about 12,000 now subscribed for. Bound volumes of these will be kept on file for reference. Besides these, 125 miscellaneous periodicals are received by exchange. This accumulation in the short space of a year is nothing short of marvelous, and the Library Committee is to be congratulated upon its untiring efforts. Now that the library has become so extensive, the profession ought to avail itself of the advantages connected therewith. We are glad to note that during the last few months a gradually increasing number of physicians are using the reading and reference rooms and we hope that this increase will continue. Another noteworthy fact in this connection is that laymen, too, are gradually learning that there is such a thing as a Medical Library at 33 High street East, to which they are welcome. This I think is a good thing to encourage, for it shows the layman that the medical profession of Detroit is a live body, able to maintain a home and library of its own.

The cafe service, successfully controlled by the House Committee, also deserves some comment. This, more than anything else, has tended to increase the social spirit, and a general feeling of goodfellowship among the members. It has been more than self supporting.

The ladies of this Society are also to be congratulated upon the interest and enthusiasm they have shown during the past year. That we have a cozy and elegant parlor, one that is in keeping with the general surroundings, is due to their efforts. They have furnished it. I am sure that in thanking them for their efforts and material aid I am voicing the sentiments of every member of this Society.

We ought also to consider ourselves fortunate in finally having secured a nurses' central directory. This directory, located as it is in our building, is really a part and parcel of our Home. We need it. Heretofore, in order to secure the services of a nurse we were forced to call up private homes or one of the several nurses' directories that then existed. Now we need but call up one number and any nurse we wish to engage will be at our service. I say any nurse, for even those that as yet have not registered in this central directory will be gladly looked up and secured for us, as I have been informed by the registrar, Mrs. Moore. At present there are 250 nurses registered. It was through the efforts of the Wayne County Medical Society that this central directory was instituted, and it is now our duty to help make it a success; first, by calling any nurse we may wish through this directory, and secondly, by urging any nurse with whom we may come in contact to register at this directory. Another way in which we can aid this directory very materially is to mention its advantages to physicians practicing in smaller towns of the State. These are often in need of nurses and often, too, have great difficulty in securing one.

Another feature in connection with our building which, although a part of our Home nevertheless on account of the advantages that can be gained from it, deserves our hearty support: This is the clinical laboratory. For the fortunate few who have a well equipped private laboratory this feature is superfluous, but for the large majority a dependable laboratory is all-important. We cannot tell at what time we may require its services, and to have it at our service at anytime is certainly a fortunate circumstance. It is still more fortunate to have it so located that with the least possible inconvenience we can personally consult the laboratory man. A personal conversation about a certain specimen, for instance, plus the written report, always gives satisfaction.

Many more advantages that have accrued from our Home could be enumerated, but time will not permit their mention. We all remember the general goodfellowship that prevailed at the several smokers, entertainments and at the reception. I need not speak of these, except that we are all anxious to have them repeated.

The scientific work of the year has not suffered on account of all the extra features that have been introduced into our Society. On the contrary it has benefited. If attendance is any criterion of the value or worthlessness of papers read, then those to which the Society has listened in the past year have proven to be of higher standard than ever before. The average attendance during the year was 100, i. e., about 30 in excess of the average attendance of other years. We have listened to papers and discussions on most of the important medical topics of the day. Besides the papers read by men from our Society, we have had the privilege and pleasure to listen to and discuss those of eight well-known out of town men. These latter, it will be remembered,

were: M. R. Edwards, of Boston; Louis Wickham, of Paris; Winfield Scott Hall, of Chicago; Reuben Peterson, of Ann Arbor; Colonel Maus, of Chicago; Henry P. Hynson, of Baltimore; Ernest Jones, of Toronto and Jay Frank Schamberg, of Philadelphia.

The membership of our Society has also kept pace with the many other advancements. In this respect the past year has been a "record-breaker." Up to this year the greatest number of new members for one year was 37. Since September last, 179 new members have been admitted and there are at present 49 more applications for active membership and 15 more applications for associate membership to be passed on. This gives a total of 243 new members for the Wayne County Medical Society in one year.

During the past year death has removed from our ranks some of our most staunch and active members, namely, Leartus Connor, E. G. Knill, B. G. Torrey, W. M. Pfeiffer, D. L. Walmsley and A. H. Bigg. The Society mourns the loss of these men, but the good influences of their lives are still with us and we trust they have gained their just reward.

Before concluding, I desire to make a few suggestions and some recommendations, which, if adopted, in my judgment will add to the future success of our Society.

The plan of appointing members to open the discussions of papers is a good one and should be continued. Three or four for each paper will always be acceptable and will arouse the interests of all present. These discussions should be from well arranged notes or can be written discussions. Even the best of our members, though there are many that are concise and forceful speakers, are apt to be guilty, occasionally, of rambling and disconnected discussions, if the same are given wholly extemporaneously. Each member accepting an appointment for a discussion should consider that he is as much under obligation as the essayist himself and his formal discussion should be prepared with the same thoroughness.

I desire also to make a plea for a greater encouragement of the younger members of the Society. These should be asked to read papers, should be appointed for discussions and encouraged to offer other contributions. We must not forget that the future work of the Society depends upon them and that many of them, because of their superior advantages and training, have facilities for developing new thoughts and methods which it should be our pleasure as well as our profit to hear and see demonstrated. I am, therefore, in favor of giving the young man a chance, even urging him to grasp any opportunity, not on account of his experience, but on account of his good training.

The meeting time set for 8:15 p. m. should be strictly adhered to. All members should endeavor to be present at this time. We should also strive to make our program practical as well as scientific. Punctuality will thus be fostered. To this end demonstrations and the exhibition of patients, charts, photographs, specimens, new instruments and appliances would be encouraged.

The increased attendance has demonstrated, beyond a doubt, the urgent need of an auditorium. Our debt on the building, etc., has been reduced, in the short space of one year, to about $4,500, over three-fourths. I do believe that we would be assuming no great financial risk if we build an auditorium at an early date. With the pledged subscriptions, the whole cost would be more than covered in five years. With the increased space an auditorium building would afford we could easily combine regular club features, such as bowling alleys, billiard and card rooms, etc. This would encourage the social as well as the scientific part of our Society. An early erection of an auditorium would therefore receive my most hearty endorsement.

The Board of Trustees of the past year has done remarkable work, and those retained in office will assure the Society of a new auditorium, for they are the progressive spirit of the Society.

I thank you once more for the confidence you have placed in me by electing me your President. I invite you all to take up the work of the coming year with as great zeal and earnestness as you have shown in the past, and I am sure it will then prove a profitable one to all of us.

With my worthy successor in office I look for the progress of the coming year to be greater than that of the past.

At the meeting September 25th, Doctor Harold Wilson read a paper, entitled:

'Two Cases: (1) Thrombus of the Lateral Sinus. Operation Refused. Autopsy. (2) The Repair of a Large Defect in the Left Lateral Wall of the Nose."

The first case was an elderly man who was brought to the hospital with a tentative diagnosis of cerebral hemorrhage, having suddenly become unconscious on the day of his admission. He was seen four days afterwards and showed an irregularly remitting temperature ranging from 97.4° to 103°, with numerous chills. For many years he had had a discharge from his right ear. The diagnosis of sinus thrombus was made and operation advised. This, the patient and family refused, saying that he was not very sick and needed no operation. The patient died on the 18th day after admission to the hospital. The autopsy showed the mastoid cells destroyed and replaced by a large cholesteatoma. The right lateral sinus contained a septic clot extending to the Torcular Herophili; a firm organized clot in the left lateral sinus extending to the knee of the sinus, and a beginning meningitis. The predominant organism was the bacillus pyocyaneus. The point was emphasized that in any patient who had chronic otorrhoea, the occurrence of a markedly remitting temperature with chills was an almost absolute sign of sinus thrombus, and warranted immediate operation. This fact is well known to otologists, but may be easily overlooked by the general practitioner. Not all cases of sinus thrombosis are easy to diagnose, and it often happens that the patient seems so well in general, that the gravity of his condition is not appreciated by his medical attendant.

(2) In the second case, a large opening existed in the nasal wall, measuring about 10x20 mm. in size. It was closed by a flap taken from the naso-orbital region having its pedicle along the upper border of the opening, and turned into place with "its skin side inside." The breaking down of the lower half of the flap necessitated the subsequent introduction of a double gut suture, which brought the edges of the opening together, and gave a good final result. It is important to note that the wound left by the removal of the flap, was so placed as to leave no eversion or other distortion of the eye-lids. The case was illustrated by photographs and a wax model.

In opening the discussion of Doctor Wilson's paper, Doctor H. H. Sanderson said:

This Society is indebted to Doctor Wilson for presenting this very unique case of Sinus Thrombosis. It illustrates, to my mind, one particular point regarding this condition, that is: the very vague manifestations apart from the fever and chills, that anything is going wrong. In this case, complicated by being a deaf-mute, there was a period of unconsciousness, followed by a clearing of the mental condition, and the suggestion of general improvement to the superficial observer. Yet all this time serious mischief was going on; a septic involvement of not only the lateral sinus, but rapidly extending to depths beyond surgical relief."

A young woman of twenty, as in this case, mastoid operation was refused. Cerebral abscess followed by unconsciousness which later cleared up, pain ceased, and nothing but septic temperature remained to guide the further treatment, until pus was found draining down the throat through the Eustachian tube of the affected side. Operation disclosed an opening in the roof of the antrum which was draining through into the tympanum, thence down to the throat, temporarily, at least, saving the patient's life.

Doctor J. E. Gleason said:

"Doctor Wilson's case of Sinus Thrombosis is typical in its pyaemic temperature curve. Not all cases are as certain in their diagnosis. In general a high fever in mastoiditis, other causes being excluded, warrants an immediate operation. If there is no local abscess found at the time of the operation to account for the high fever, the sinus should be explored even though covered by healthy bone. This procedure is without danger and affords the best protection to the patient. If the sinus is apparently sound, in the absence of pressing symptoms, delay in operating is permissible. If the sinus wall is diseased, or if there has been a pyaemic temperature curve, or if after the mastoid has been opened the fever does not fall, the sinus should be opened. Incision and not aspiration should be the method employed. The thrombus should always be removed as completely as possible, which often for its accomplishment requires more extensive surgery in the neck and on the bulbus."

Doctor Amberg said that the fate of the patient suffering from a Sinus Thrombosis lies often in the hand of the general practitioner, who is frequently confronted with the serious task of a differential diagnosis between typhoid, central pneumonia, pyelitis or malaria.

Before the thrombus is infected, which takes sometimes twenty hours, the removal of the infection from the outside of the sinus may be preventative. Accidental opening of the sinus is by no means without danger. Statistics show about 90 per cent recoveries in operated cases of thrombosis, whereas the mortality in non-operated cases is very high. The temperature curve is not always reliable. Sometimes the mental condition of the patient is characteristic.

Doctors P. J. Livingstone and W. A. Potter also spoke along the same lines.

At the meeting October 2, 1911, the Secretary presented the names of five persons recommended by the Board of Trustees for associate membership, and sixty-two names for active member ship. By unanimous vote of the Society they were accepted for membership and the Secretary instructed to place their names upon the rolls of the Society.

Dr. A. N. Collins, Chairman of a Committee upon Automobile Insignia, said he had talked with Police Commissioner Croul and that Mr. Croul had said any distinctive mark agreed upon by the physicians for their motors would be agreeable to his department. By an almost unanimous vote of those present it was decided to adopt some such distinctive insignia, the details to be developed later.

Dr. Frederick M. Hartsock, Major Medical Corps, U. S. Army, as a guest of the Society. read a paper, entitled

Anti-Typhoid Vaccination

(Illustrated with several charts).

By anti-typhoid vaccination, I refer to the method of inoculation by means of killed cultures of the bacillus typhosis at proper intervals, with the object of producing a high degree of immunization to the Eberth's bacillus.

The method as used at present has been evolved from biological experiments conducted since 1886 on laboratory animals, and later on human beings. In 1886, Fraenkel succeeded in immunizing rabbits against large quantities of the typhoid bacillus. Chantemesse first succeeded with mice and later, in 1888, was the first to experiment on humans. In 1894, it was recognized by Pfeiffer and others that this immunity partly depended on bacteriolytic immune bodies in the serum. Later Pfeiffer, together with Kolle, determined that the changes in the serum after inoculation of vaccine were identical with those after actual typhoid.

The inoculation in human beings was put on a practical basis by Sir A. E. Wright of the British Army Medical Corps in 1898, and used extensively among the British troops in India, and later during the Boer war in South Africa. The figures from these extensive inoculations, because of the poor statistic data, were not sufficiently convincing to attract great attention so that for several years afterward very little work was done in this line.

Since about 1903, however, the medical departments of the various armies of the first-class powers have paid more attention to the prevention of the great army scourge, typhoid, with the result that anti-typhoid vaccination bids fair to be the greatest of preventative measures. In our own army, the system of inoculation was adopted after the report of a board commanded to investigate its practicability, composed of Vaughan, Flexner, O'Reilly and Russell.

At present in the American army, inoculation is obligatory; the vaccine being prepared at the army laboratory in Washington under the direction of Major Russell.

Typhoid fever, even before the discovery of the specific bacillus, had long been considered by clinicians to present the features of an intoxication. We know that the general symptoms depend on the action of a definite toxin which has a general and local effect on the system. More technically expressed, would it be, to say that the effects are those of an endotoxin which is set free when the bacillus undergoes solution in the body and, on this fact, has been based the principle of vaccination.

The endotoxin manifests its local action in regions which harbor the bacillus and in which it undergoes solution, either by autolysis or bacteriolysis, such as in Peyers' patches, spleen, abdominal lymph glands, etc.

The general action of this poison is, of course, shown by the fever—degeneration of the kidney, liver and other organs.

Recovery from typhoid and immunity after typhoid is brought about by various factors. First by bacteriolysis, but only slightly so, as the bacteriolytic power of the blood does not show great increase only to the deficiency in complement. Next by Phagocytosis. It is a fact that the opsonic index is raised to a high degree during the fever and though leucocytosis is not present the normal leucocytes are very active during this period. The immunity

produced by an attack of typhoid lasts several years; in some cases throughout life.

The effect from the inoculation of killed cultures of bacillus typhosis is parallel with the above mentioned. Both local and general symptoms ensue and from the production of quantities of antibodies a degree of immunity is produced which lasts for a period now believed to be about three years or possibly for a longer time.

After the injection, agglutinins appear about the sixth or seventh day and last a year or two, but may persist for as long as seven years. The Widal reaction, ten days after inoculation, is plus in very high dilution up to one in 20,000, and remans high for about a year.

The bacteriolysins developed in the serum closely follow the agglutinins, but do not persist as long.

The opsonic index is raised as in typhoid and does not go as high or last as long as that of the agglutinin.

The slight phagocytosis developed after inoculation declines after about fifteen days.

The vaccine used in the U. S. Army is prepared from a culture originally isolated from a spleen autopsy and which has been under cultivation for many years. The culture is now almost avirulent for animals and, from the present knowledge on the subject, represents the ideal strain for protective purposes. The strain is capable of producing great quantities of antibodies and, on account of its slight virulence, the local and general reaction following its use, is slight.

The bacilli are cultivated on agar slants in large flasks and incubated for eighteen hours. The growth is then washed off with salt solution and the residue kept in a water bath for one hour at 56° C—greater heat it is found destroys immunizing power of the vaccine. The emulsion is counted, then diluted so that 1cc. represents 1,000,000,000 bacilli; a one-quarter of 1% Trikresol is added and the solution kept in sealed ampules.

Of course, careful tests are made on media and animals to insure absence from contamination.

The method of inoculation is as follows: A first injection of 500,000,000 bacilli or ½ cc. is administered subcutaneously preferably at the insertion of the deltoid; the area having been previously touched with tincture of iodine. A second inoculation of 1 cc. is given at the end of ten days, or, at most, two weeks after the first, and is followed by a third after a like period.

The vaccine is best given about 4 P. M. so that the unpleasant symptoms attendant are about over by the following morning.

This completes the immunization—the antibodies developing fully at the end of each ten-day period.

The supposed theoretical danger of the negative phase after inoculation, and consequent liability to any present infection in this period, is now thought to be not present.

The immediate effects of injection are almost nil, only a slight stinging at the needle puncture. About five hours after there will be felt a slight headache, moderate degree of lassitude, and possibly some fever noted.

Locally, a red tender area, about three inches in diameter, appears, attendant with a moderate glandular enlargement in the axilla, lasting from 24 to 72 hours. The general symptoms are over in 24 hours, in about 95% of the cases.

Some cases develop more severe general and local reactions, but out of 34,284 inoculations, no dangerous effects have been reported.

A definite classification of reactions has been adopted in the U. S. Army. The cases developing no temperature, few general symptoms and slight local effects are classed as none, those with a temperature below 100° are classed as mild, next between 100-103° moderate, and over 103° severe. Russell's figures in cases reported for 1910 are:

First Dose—10,757 cases:
- 62%—no reaction.
- 32.3%—mild.
- 5.0%—moderate.
- 0.7%—severe.

Second Dose—10,383 cases:
- 67.83%—no reaction.
- 25.67%—mild.
- 6.03%—moderate.
- 0.46%—severe.

Third Dose —8,038 cases.
- 78.32%—no reaction.
- 16.24%—mild.
- 5.05%—moderate.
- 0.24%—severe.

In my own cases, out of 1,100 vaccinations there was a percentage of 94 with absent or mild reactions, 5% of moderate, and 1% of severe reactions.

The protective power of the vaccine is amply demonstrated by statistics. The morbidity rate

is decidedly lowered—the mortality rate likewise. The protective power of the vaccine increases in ratio to the number of doses received up to three, and the severity of the attack is lessened in like manner. As to the protective value of doses, I may quote from Kuhn's tables: "Nearly 60% of fatal cases occurred in those receiving one dose; 33% in those having received two doses, and only 8% with three doses.

In the U. S. Army, out of 12,644 vaccinated persons there have been five cases and no deaths, while, at the same time, in those not vaccinated there have been 418 cases with 32 deaths.

The last and best figures and those most convincing, are those quoted by Lieutenant-Colonel Kean, of the Surgeon General's office, in his article on the sanitation of the recent maneuver division in Texas. The troops were four months in the field in a close camp, flies were quite prevalent, but in the inoculated command of 12,801 men and officers, only one case of typhoid appeared. At the same time in San Antonio, the adjacent city, there were 49 cases of typhoid with 19 deaths.

Compare these figures with those of 1898 when in the Seventh Army Corps, assembled at Jacksonville, Florida. Of 10,759 soldiers not vaccinated there were 1,729 cases of typhoid, with 2,693 probable cases, and 248 deaths for the total.

The typhoid vaccination will prove its value in the following cases:

1. All persons in the presence of an epidemic.
2. Armies.
3. Nurses, hospital attendants and doctors.
4. Camping parties, travelers and itinerant traders.
5. The youth of all conditions.

Discussion

DOCTOR C. G. JENNINGS, in opening the discussion, said the army had given to the world, in the recent Texas maneuvers, a most remarkable example of prophylaxis as regards typhoid fever—quite a contradistinction to that of the Spanish-American war—one case of typhoid in an army of 12,000 soldiers in four months—indeed, a startling result. He has had no personal experience, but already an intelligent family in which he has now under observation a suspected typhoid, had consulted him as to the possibilities of vaccination for prophylaxis to the other menbers. He suggested its use for nurses, internes and others of hospitals, while the medical students and physicians might avail themselves of its benefits.

The experience of the army filters to the public slowly. Here then was an opportunity for the physician to again demonstrate his excuse for existence by enlightening the public.

DOCTOR E. M. HOUGHTON: Dr. Hartsock stated that a few cases showed untoward reactions to the vaccine. It may be comforting to the patient to have his attention called to the probability that the greater the reaction to the vaccine, the more pronounced will be the immunity conferred.

Since, as Dr. Hartsock points out, our statistics may be vitiated by the counting of the paratyphoid cases that occur as typhoid, it would seem to me wise that we should combine the two organisms in the same vaccine and protect the patient against both diseases. I do not recall that anyone has tried this out; perhaps some work has been done in the army service or elsewhere. If so, I should be very pleased to have Hartsock explain to us exactly what has been accomplished.

An element of safety in connection with typhoid vaccination that is of considerable importance is the fact that no harm will come to the patient even though he already be in the first, or even later, stages of the disease. It may be that such vaccination will have a curative value as pointed out by Leishman and a number of others, particularly as the dose of the vaccine is a large, one and he showed that only large doses of vaccine give evidence of curative results.

I may answer the question raised by Dr. Jennings as to whether the public will become interested in this subject to any great extent, by calling his attention to the recent action of the State authorities of Georgia, who are making arrangements for state-wide vaccination. In order that general vaccination might be more popular, it would seem that the experiments of Wright and his co-workers on the internal administration of the vaccine should be studied further, even though their results thus far have been so variable that we cannot consider them of practical importance.

DOCTOR VICTOR C. VAUGHAN said since typhoid is a self-limited disease it must lend itself to the development of artificial immunity. He cited a case of his own experience in which the father of the household had recovered from

typhoid and later his daughter contracted the disease. The matter of prophylactic vaccination had presented itself to his mind—here then would have been an opportunity in which it might have been used. Fortunately for Detroit, our water supply is above suspicion, so we have opportunity to study cases not in epidemics, but only from cases transmitted from individual to individual. The recent army experience was to him conclusive, but he suggested that inoculations be made with a vaccine of the whole germ until something better was developed.

Doctor Joseph Sill said that typhoid was an ideal disease for experimentation, since its bacteriology was definitely known, its course continued over quite a definite period of time and large numbers of cases could be grouped and observed. Also since it is a general infection, in contradistinction to diptheria in which such brilliant results have been obtained—it is no wonder that at last a means of real prophylaxis had been obtained.

He looks for even better results as time gives opportunity for further research.

Doctors G. E. McKean, F. B. Tibbals, A. D. Holmes, B. R. Shurly and R. W. G. Owen also discussed the paper. Doctor Owen, urging that the vaccine be so made as to influence the paratyphoids as well as the typical typhoid of Eberth. He cited a certain commercial vaccine that had been proven absolutely inert, and suggested that its probable activity could be readily determined in any properly equipped and manned laboratory.

Doctor Hartsock, in closing his paper, mentioned, among other contra-indications for the vaccine's administration, the use of alcohol in all forms for at least twenty-four hours following its use.

Menstruation, for four or five days preceding, or a like number of days succeeding, also constituted a contra-indication.

He pointed out also the possibility of a future use of a toxin alone, instead of a vaccine of dead bacilli, even through the agglutination was not so high as with dead bacilli. A vaccine might clear up a typhoid infected gall bladder, typhoid abscesses, or typhoid cystitis. He has his doubts in its ability to ameliorate cases already infected.

The method of inoculation consists in the subcutaneous use of ½ cc. of the vaccine as obtained from the government laboratories, in three separate administrations, with an interval of ten days between each. Three administrations of the above quantity will confer full immunity.

Upon the motion of Doctor Jennings, a unanimous vote of thanks was extended to Major Hartsock for his very instructive paper.

Library Notes

During the Annual Meeting of the Michigan State Medical Society the usefulness of our Medical Club House more than made itself manifest.

Committee meetings have taken place almost daily. The registration of members of the Michigan State Medical Society began at the Club House Tuesday. On Thursday evening Open House was held for visiting physicians.

All the week the Cafe was patronized as never before and at almost any time one could find visitors going over the building, admiring and commenting upon the progressive spirit shown by our County Society.

May it fall to our lot to soon again help entertain the State Society.

During the summer months considerable progress has been made in arranging and cataloging the books in the library. There are now over 9,000 non duplicates and over 3,000 duplicates. Among the latter are some very valuable sets of periodical literature, lists of which, together with lists of our wants, will be sent to other medical libraries. In this way it is hoped to complete some of our broken sets.

We are now in position to furnish a large part of any ordinary list of references. Any member wishing to look up articles, need only telephone Miss White, the librarian, and the desired books will be placed on the work-table ready for use. We have a complete set of the "Index Medicus" and of the Index to Current Literature, published by the American Medical Association. References may, therefore, be readily obtained.

Recent donations have been received as follows: Doctor Vincent Greco, 1 vol.; Doctor H. N. Torrey, 23 vols. and unbound files; Frederick Stearns & Co., 258 vols.; Mrs. E. G. Knill, 53 vols.; Doctor C. B. Burr, 195 vols. and unbound files; Doctor W. P. Manton, 228 vols.; Doctor Herbert M. Rich, 9 vols, and unbound files; Doctor C. S. Oakman, 62 vols. and unbound files.

Rolland Parmeter. *Correspondent.*

NEWS

Dr. R. E. Balch, Kalamazoo, has resumed practice after three month's illness.

Drs. George L. LeFevre and Frank W. Garber, Muskegon, sailed for Europe, August 26, 1911.

Dr. Ansel B. Smith, Grand Rapids, was operated on recently in Ann Arbor for appendicitis.

Dr. Ray C. Stone, of Battle Creek, was married October 4, 1911, to Miss Ethel Jane Pryor, of Houghton.

Dr. Charles L. Grube, formerly health officer of Saginaw, is reported to be seriously ill, as a result of overwork.

Houghton County, on August 22, awarded the contract for the construction of a county tuberculosis hospital to cost $10,000.

Drs. J. H. Kellogg and Jas. T. Case, Battle Creek, sailed for Europe, Oct. 1st, to attend the International Tuberculosis Congress, and for study at Vienna.

Dr. Zell L. Baldwin is said to have been prohibited, by a restraining order, from maintaining a tuberculosis sanitarium in the residence portion of Niles. He has removed to Kalamazoo.

On account of the overtaxing of the capacity of the Detroit Pubilc Library, about 4,500 of its medical books have been transferred to the custody of the Wayne County Medical Society.

Dr. W. den Bleyker returned to Kalamazoo last month, after three months' study in Neuheim, Germany. Pending the completion of his home on South Burdick street, he has opened offices in the Kalamazoo National Bank Building.

Dr. Harold A. Hume, of Owosso, was married September 20, 1911, to Miss Nina Beebe, of Ovid. Doctor Hume, a delegate from the Michigan National Guard to the Association of Military Surgeons at Milwaukee, September 26-27, attended that meeting in company with Mrs. Hume.

The State Board of Health, in a communication sent to the various Registrars and Health Officers throughout the state, has declared that Chiropractors cannot sign death or birth certificates; that when a certificate is received by a Registrar with the signature of a chiropractor on it, that death must be referred to the Health Officer, or the Coroner for investigation, and a burial permit cannot be issued until such certificate is signed by a regularly licensed physician, or by the Coroner. The same applies to midwives in respect to signing death certificates.

It is reported that one of the daughters of Marillius Jenson, the leper of Houghton County, is now under investigation, suspected of being a leper. Other States maintaining leper colonies have declined to accept Jenson and the State Board of Health is endeavoring to find a place for him where he can receive better care. The University Hospital has been suggested, but definite arrangements have not yet been made.

Dr. J. A. Christenson, the Secretary of the Manistee County Medical Society, and formerly President of that Society, has moved to Chicago, and as a testimonial of the esteem in which he is held, every member of the Manistee County Medical Society was present at a dinner tendered to him on September 21st, at which all wished him success and God-speed in his new location at 917 Belmont Ave., Chicago, Illinois.

The New York Skin and Cancer Hospital announces that Dr. L. Duncan Bulkley will give a series of clinical lectures on "Diseases of the Skin," in the Out-Patient Hall of the Hospital on Wednesday afternoons, from November 1st to December 20th, 1911, at 4:15 o'clock.

The course will be free to the Medical Profession.

Ground has been broken for an addition to Harper Hospital, Detroit, to cost about $400,000. The first building to be erected is to be six stories in height and of steel and cement construction. It is expected that the new addition will be ready for occupancy about Jan. 1, 1913.

The Secretary of the State Board of Health has addressed a letter to the various newspapers of the State, and to the Health Officers, urging that whooping cough and measles be more

promptly reported, and that the quarantine regulations of the state regarding these two diseases be enforced. In his letter he quotes a set of resolutions adopted by the Calhoun County Medical Society:

"RESOLVED, that the Calhoun County Medical Society, in regular session in the city of Marshall, appreciates the fact that pertussis (whooping cough) is one of the most fatal of the contagious diseases of childhood.

"RESOLVED, That the Calhoun County Medical Society hereby expresses its desire that, through the efforts of the State Board of Health, the public may be better instructed in the dangers of this disease, that the disease be reported and that stringent quarantine regulations be enforced."

Dr. Dixon points out in his letter the enormous death rate from these two diseases and urges their prevention. This action of the State Board of Health goes to show that the Medical Societies, if they will, can exert a great influence in enforcing proper public health regulations.

PROCEEDINGS OF THE STATE BOARD OF HEALTH

Lansing, October 13, 1911.

The next examination of embalmers will be held at Lansing, Michigan, November 15, 1911.

The State Board of Health has employed Miss Adele McKinnie, an expert investigator in eugenics, from the Eugenics Record Office, Cold Springs Harbor, Long Island, N. Y., as a special medical inspector, to investigate, during the next six months, the condition and extent of feeble-mindedness and mental deficiency in Michigan. Miss McKinnie's work will begin at the State Home for the Feeble-Minded and Epileptic, at Lapeer, Michigan, under the immediate direction of Dr. George S. Chamberlain, Medical Superintendent of that Institution.

With the especial approval of Governor Osborne, the State Board of Health authorized the Secretary to bring about an investigation of the occupational conditions in Michigan, with a view to prevention of unnecessary loss of life and health from conditions that can be remedied. This work is to have the immediate attention of the Department, a thorough investigation to be made of all industrial conditions that affect health and life.

The Secretary of the State Board of Health was appointed a delegate to attend an Association of Railway Surgeons, to be held in Chicago, October 18 and 19; also to attend the meeting of the American Public Health Association, at Havana, December 4 to 9, 1911.

The Clinical Congress of Surgeons of North America will meet in Philadelphia November 7 to 16, and a most excellent program has been provided, consisting of clinics in all the hospitals and papers in the evenings before the various local societies.

BOOK NOTICES

The Medical History of the State of Indiana, by G. W. H. Kemper, M. D., Illustrated. Chicago: American Medical Association Press, 1911.

In this little book Dr. Kemper has presented the life history of all the medical men in Indiana of whom he could learn. The subject matter appeared in the Journal of the Indiana State Medical Association during the past two years. It preserves the memory of the medical men of Indiana as could be done in no other way.

Manual of the Diseases of the Eye for Students and General Practitioners, by Charles H. May, M. D. Seventh edition, revised, with 362 original illustrations, including 22 plates, with 62 colored figures, New York: William Wood and Company, 1911. $2.00 net.

In this edition numerous paragraphs have been added upon subjects in which a special interest has been developed recently, for instance; Trachoma Bodies, Lagrange's Operation for Glaucoma, etc. As in the former editions of this work the colored plates are extremely good. The book is well illustrated and contains all the information the general practitioner would be expected to have on diseases of the eye and their treatment.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles by leading men of the Medical Profession throughout the World. Edited by Henry W. Cattell, A. M., M. D. Volume III. Twenty-first Series, 1911. Philadelphia and London: J. B. Lippincott Company, 1911. $2.00 net.

The suggestions covered in this volume are too numerous to even tabulate in the space at our command. Dr. C. C. Mapes, Covington, Ky., has presented an excellent article on the subject of fasting. This number contains the first of a series of articles by Thomas F. Reilly, of Fordham University, New York City, upon the "Successful Practise of Medicine." Taken as a whole this is a very interesting and valuable

paper, occupying nearly 60 pages, but there is one criticism. In places when certain facts are presented they are not absolutely accurate, for instance; he gives the formula for Lay Baptism as practiced by the Catholic Church, but he does not give it correctly. · Speaking of Medical Defense he says "One of the State Societies, notably the New York State Society, undertakes to defend its members," etc. There are now something over 20 societies doing this work.

The Practical Medicine Series. Comprising ten volumes of the year's progress in medicine and surgery, under the general editorial charge of Gustavus P. Head, M. D., and Charles L. Mix, A. M., M. D. Vol. VI, General Medicine, edited by Frank Billings, M. S., M. D. and J. H. Salisbury, A. M., M. D. Series, 1911. Chicago: The Year Book Publishers, $1.50, series $10.00.

Like others of the series this book covers the advances made during the year, among which is noted favorable comment on the use of Salvarsan (606) in malaria. It is claimed that the arsenic content has a marked effect on the parasite, and that Enesol and Salvarsan are useful in cases where quinine fails to act.

Some new thoughts are given to the pathology and treatment of gall-stones. The reviewer is glad to see the comments of Eichler and Latz on chologan, a "cure of gall-stones" as reported in 1903 and since used by Dr. Robert Glaser of Muri, Switzerland, many other Germans and some Americans, and for which extravagant claims have been made.

A peculiar disease simulating typhoid is described. Also a peculiar affection of the tongue resembling actinomyces in which no ray fungus could be identified.

Vol. VI in every way maintains the high standard set by its predecessors.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., assisted by Leighton F. Appleman, M. D., September 1, 1911. Lea & Febiger, Philadelphia and New York. Six Dollars per Annum.

The advances of the year in the subjects of Diseases of the Thorax and its Viscera, Dermatology and Syphilis, Obstetrics, and Diseases of the Nervous System are reviewed in this work by men eminently competent to bring them up to date. The literature of these various fields of medicine has been reviewed, collected and presented in an easily accessible manner.

Lippincott's New Medical Dictionary. Edited by Harry W. Cattell, M. D., Freely illustrated with figures in the Text. Second Edition. Philadelphia and London: J. B. Lippincott & Company, 1911.

This is the second edition in less than one year, which fact, of itself, speaks for the value of the book. The cover is of flexible leather, the type face clear and distinct, and the book thumb indexed. All the newest words are included, about 500 new ones being inserted within the year. We can do no better than recommend this book to any one desiring a good medical dictionary.

Anatomy. A Manual for Students and Practitioners, by John Forsyth Little, M. D., Second Edition, Revised and Enlarged. Illustrated with seventy-five engravings. Lea & Febiger, Philadelphia and New York, 1911.

This is a very complete manual and a quick review of the essentials of anatomy. It must be classed in the Quiz Compend class of books about whose value there is a difference of opinion.

Gonorrhea in the Male. A Practical guide to its treatment, by Abr. L. Wolbarst, M. D. Published by International Journal of Surgery, New York, 1911.

Dr. Wolbarst has amassed a large amount of valuable information in a very small volume. The unnecessary details and matters that a hurried practitioner has not the time for have been eliminated.

It is a valuable little treatise for any general practitioner. The consideration of vaccines and other more recent methods is conservative.

BOOKS RECEIVED

Proceedings of the Council and of the Massachusetts Medical Society, Boston, 1911, containing a Directory of the Officers and Fellows.

The Panama Canal Zone, An Ephochal Event in Sanitation, by Charles Francis Adams, Boston, 1911, pp. 38.

Transactions of the Florida Medical Association for the year 1911.

Merck's Manual, Fourth Edition, 1911.

Five Illustrative Cases of Primary Melanosarcoma of the Choroid, by J. H. Woodward B. S., M. D., reprinted from the Post-Graduate, for July, 1911.

SURGICAL SUGGESTIONS

American Journal of Surgery.

In an injury to the elbow gentle palpation and study of the relations of the bony landmarks —the olecranon, the condyles, the head of the radius—is very often quite sufficient to establish a diagnosis without painful manipulation.

The X-Ray shadow of a deposit in the subacromial bursa may easily be mistaken, by the inexperienced, for that of a fracture of the tuberosity of the humerus.

The Journal of the Michigan State Medical Society

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ORIGINAL ARTICLES

REMARKS UPON THE PATHOLOGY, SYMPTOMS, DIAGNOSIS AND TREATMENT OF INTESTINAL TUBERCULOSIS*

SAMUEL GOODWIN GANT, M. D., LL. D.
New York City.

Of the various intestinal diseases with which we have to contend, barring cancer, tuberculosis is the most disheartening to treat, although, in recent years, considerable progress has been made in the handling of this class of cases.

Bowel tuberculosis is incited by bacilli which reach the intestine through being inhaled with the food, in swallowed sputum from an infected lung, or by way of the anus, from scratching or unclean toilet paper. Consequently this affection may be *primary* or *secondary*, and be caused by either *bovine* or *human* tubercle bacilli, but is secondary to lung involvement in the vast majority of instances. Named in the order of frequency with which they occur, tubercular lesions of the intestine may be grouped into the following varieties:

(*a*) *Enteric* or *superficial ulcerative* type.
(*b*) *Entero-peritoneal* or *deep ulcerative* type.
(*c*) *Hyperplastic* or *tumor-forming* type.
(*d*) *Fibro-sclerotic* type.
(*e*) *Peritoneal* type.
(*f*) *Glandular* type.

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

PATHOLOGY

(a) In the *enteric* or *superficial* ulcerative form of tuberculosis, the disease attacks the solitary follicles and Peyer's patches (particularly opposite the mesenteric attachment) which, from distention and bacillary inflammation, project outward until, through nutritional impairment or caseation, the overlying structures give way and diminutive lesions are formed. From this time extention of the process is rapid, owing to the generation of toxins, formation and degeneration of new tubercles, mixed infection and necrosing endarteritis characteristic of the disease.

Large, single or multiple girdle ulcers (Fig. I) form in the mucosa, but rarely extend beyond it, except where an active part is played by other virulent microorganisms. Uncomplicated tubercular lesions show a tendency to heal, but where secondary infection predominates, they extend with great rapidity.

Enteric tubercular ulcers are usually shallow, of a grayish tint, greasy appearance, uneven base, with irregular, soft or indurated edges, which may be undermined and have a tendency to follow the

blood vessels, encircle the bowel and cause stricture when healed.

The enteric type usually remains superficial, consequently perforation is not common, but the peritoneum, while not

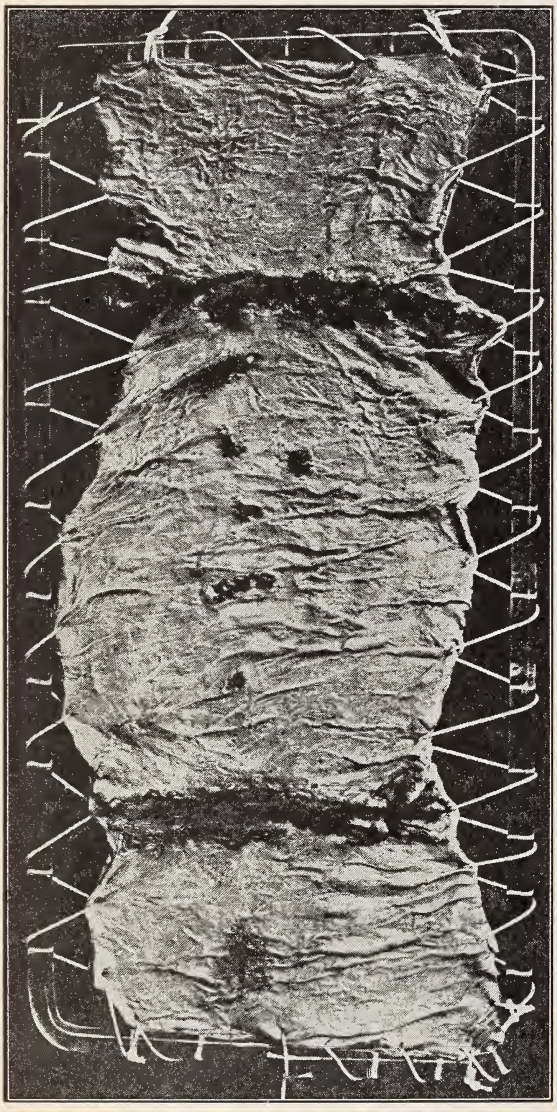


Fig. I. Small and Large Girdle Cicatrizing T-Ulcer (Ileum). Girl, 8 years.

tubercular, shows evidences of the disease by its discolored, swollen, or roughened appearance.

(b) *Entero-peritoneal* or *deep ulcerative* tuberculosis is much more dangerous than the foregoing, because the disease usually attacks the mucosa and serosa almost, if not simultaneously, is more virulent and the destructive process soon involves the entire gut wall, as a result of which extensive deep ulcers are formed, papillomatous excrescences spring up, profound toxemia occurs and perforation not infrequently follows, resulting in peritonitis and the formation of adhesions, abscess or a pyostercoral fistula.

Entero-peritoneal tuberculosis (Fig. II) most often attacks the mucosa of the ileo-cecal region, extends rapidly, and involves the deeper tunics and here, as in other types, the ulcers tend to girdle formation, but show little inclination to heal, in consequence of which stricture is rare.

In these cases the mesenteric and retroperitoneal glands become infected and caseate, the peritoneum is congested, fragile, tears easily, is dotted over with tubercles, and quickly becomes agglutinated to adjacent structures, the gut has a doughy feel and the ulcers are discernible through the serosa.

(c) *Hyperplastic* (hypertrophic, neoplastic) tuberculosis is the most benign form of tubercular infection because it progresses slowly, the accompanying manifestations are less distressing, and operative measures bring good results.

Hyperplastic tubercular tumors rarely occur in the small intestine, but are found often in the cecum and ileo-cecal region (85%), and occasionally in the rectum. These tumors may be multiple, but are usually single, involve the entire circumference of the bowel, and the hyperplastic changes vary from slight thickening to enormous enlargements.

The apparent increased size of the cecum is due to deposits in the gut wall, its lumen and outside, to the formation of a thick fibrous capsule which gives to

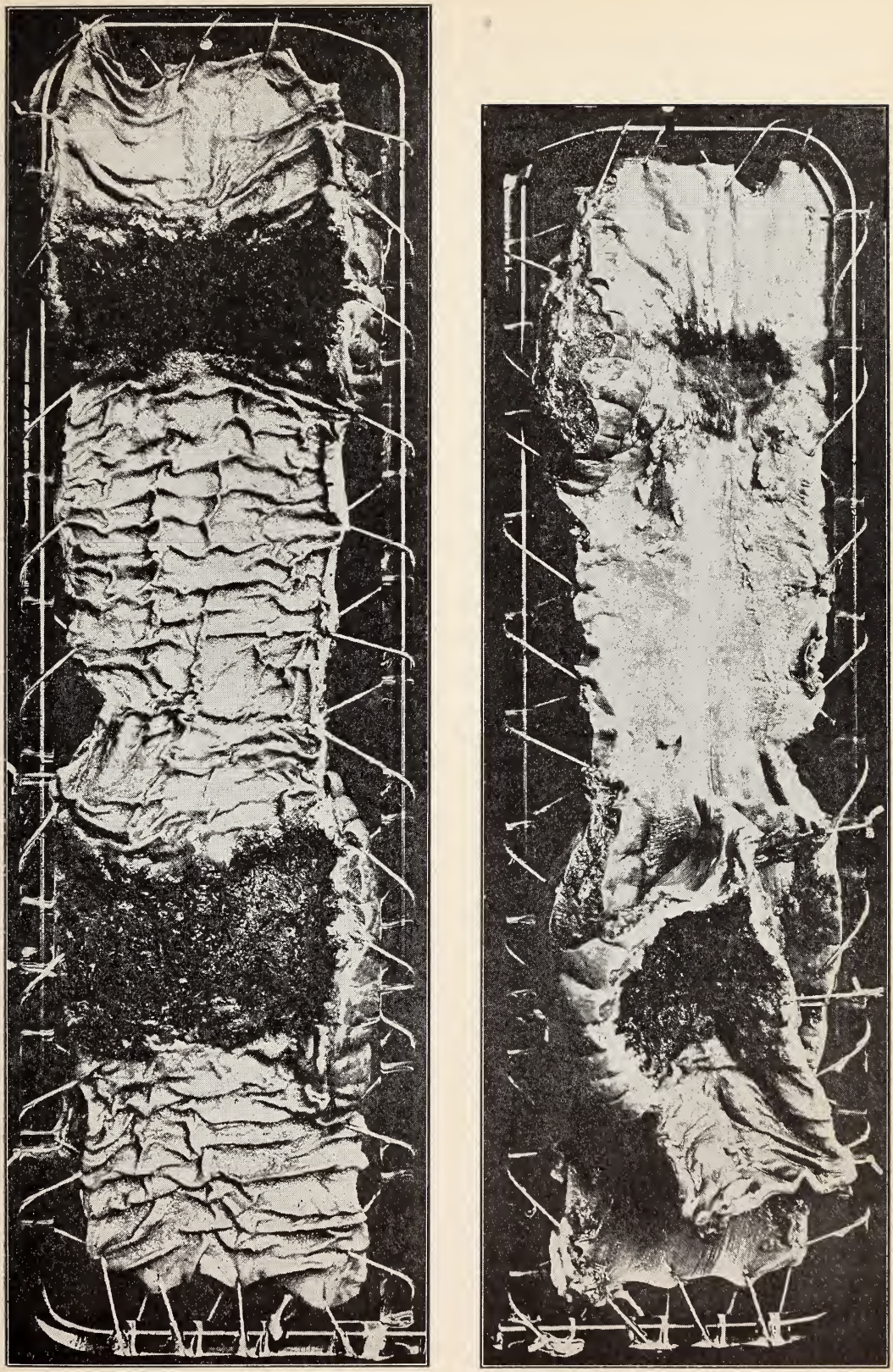


Fig. II. Extensive Enteroperitoneal Tubercular Lesion (Ileum).
Left: mucosa surface. Right: peritoneal surface.

the neoplasm its firm, elastic feel, or in aggravated cases, to agglutination of the growth, appendix, adhesions, intestinal coils and glands.

Hypertrophic tubercular neoplasms, when sectioned, are grayish, resemble cartilage, the lumen of the bowel is partially or completely obliterated, and the mucosa is smooth, or covered with papillomatous growths and thrown into atrophic folds devoid of ulcers. The process develops principally in the submucosa and subserosa, and continuity of the outer and inner surfaces of the bowel is not broken until late when the tumor degenerates, a condition which sometimes leads to abscess and the formation of intestinal or abdominal pyostercoral fistulae.

(d) In *fibro-sclerotic* tuberculosis there is an absence of ulcers and scar tissue, but the gut is converted into a rigid fibrous tube (gas-pipe intestine) through a subacute inflammation incited by the T-bacilli, toxins or pathogenic bacteria. In the writer's opinion this is a modified form of hyperplastic tuberculosis.

(e) *Peritoneal* tuberculosis may be local or general, and originate primarily in the peritoneum, or secondarily from extension of the intestinal foci. In some instances, as in the miliary variety, tubercles may be seen thickly scattered over the serosa, discernible here and there as whitish, elevated swellings, or as ulcerated depressions when caseation has begun.

In aggravated cases the serosa is thickened, congested, very brittle, and is connected with adjacent coils of intestine, or distant parts, through slight or extensive adhesions or the walling off of diminutive or larger pus cavities when perforation has occurred.

(f) Enlargement of the *mesenteric*, *retroperitoneal* and, sometimes, the *omental glands*, is frequently associated with bowel tuberculosis, due either to simple inflammation or specific infection.

The *appendix* often becomes involved in intestinal tuberculosis, owing to its location in the ileo-cecal region. Hyperplastic changes seldom occur, but the enteric and enteroperitoneal types of the disease nearly always involve the appendix.

Tuberculosis may be encountered in all parts of the bowel, but it attacks the ileocecal region, rectum and the perianal structures much more frequently than the upper part of the small bowel and the colon proper. In fact it originates in the ileo-cecal angle in about 85% of the cases.

SYMPTOMS

The manifestations of intestinal tuberculosis depend upon its virulence, extent of the infection, stage, location, whether it is primary or secondary and the part played by mixed infection. When secondary to disease in the lung or elsewhere, the patient has an evening temperature, night sweats, emaciation, impaired digestion, shortness of breath, cough and hemorrhages, in addition to local disturbances. Suffering from it is comparatively slight in small gut involvement, emphasized when the trouble is situated in the colon, and pronounced when the rectum is diseased.

The incipient stages of *enteric* and *enteroperitoneal* intestinal tuberculosis are characterized by loss of appetite, discomfort in the naval region, and a slight increase in the movements, which are soft, but gradually the symptom complex changes and later the patient looks very ill, has a sallow complexion, furred tongue, foul breath, concentrated urine, is restless and suffers from aggravated diarrhea, wherein the stools vary from six to twenty daily (occurring most often in the early morning) and contain a considerable amount of pus, blood, mucus and foul gas.

The frequency of the movements and quantity of the discharge bears a direct relation to the number, size and location of the ulcers, but the patient's condition is always more aggravated when the lesions are low down in the colon and rectum.

Pain and tenderness are slight, except during acute exacerbations when there is often enterospasm and visible peristalsis which are relieved by the evacuations. Crises and cramps occur more frequently and severely when the small intestine is diseased than when the colon is affected, and are prone to take place in the early morning hours.

In *enteric* tuberculosis ulceration is superficial and, consequently, disturbance within the belly is limited principally to tenderness and localized inflammation of the serosa, but in the *entero-peritoneal* type where perforation often takes place, suppurative peritonitis ensues and simple or pyostercoral abscess and fistula may form.

Hyperplastic tuberculosis produces less distress than the other varieties because it is local, develops slowly, does not affect the general health so profoundly, and causes no disturbance further than a catarrhal inflammation and very slight diarrhea, until four or five years have elapsed and the neoplasm caseates or has attained sufficient size to produce partial or complete intestinal obstruction.

In all forms of tuberculosis of the small intestine and colon, single or multiple strictures, adhesions, angulations and twists of the bowel are frequent complications.

Rectal Tuberculosis.—In incipient tubercular proctitis the mucosa is inflamed, sensitve, swollen, edematous, eroded and smeared over with mucus. The movements are mushy, contain mucus, are slightly increased in frequency, and their evacuation is accompanied and followed by mild tenesmus. Later, when the membrane becomes granulated and small ulcers form, diarrhea is more aggravated, owing to exposure of the nerves and consequent



Fig. III. Tubercular Ulceration of Rectum, complicated by abscess and fistulae just above the anus. (Adult. (Patient also had abscesses in both small and large intestines).

reflex peristalsis. As the disease progresses, the patient's condition becomes more distressing because of mixed infection, trauma to the lesions, frequent straining and tendency of the feces to collect in the undermined ulcers (Fig .III) which induces pain, excites sphincteric spasm, or causes infection, abscess and fistula. The evacuations contain a larger amount of blood, pus and mucus in rectal tuberculosis than when the disease is located higher up, and ulcers in the upper rectum induce but little discomfort, while those situated at the anus cause severe pain.

Anal and *perianal* tuberculosis is more common and may manifest itself in the form of a superficial ulceration, abscess or fistula. In these cases the patient may exhibit general manifestations of tuberculosis without bowel disturbances, except when it is involved. The lesions here are painful and extend rapidly, owing to irritation incited by the feces and clothing.

The patient has annoying tenesmus unrelieved by defecation, the wound is sensitive and bathed in a serous discharge, which sets up a dermatitis and often leads to deep infection and the formation of true tubercular fistula.

When *stricture* results from *ano-rectal* tuberculosis, the patient complains of a sensation of weight, fulness, and pain in the sacral region and a constant desire to evacuate the bowel and, in exaggerated cases, where stercoral ulcers form above the constriction, feces or the discharge occasionally becomes pocketed within them infection takes place, the patient has a chill, rise of temperature, and an abscess is formed, the pus from which drains downward along the rectum to form a fistulous opening in the ischio-rectal region.

DIAGNOSIS

In the incipient stages of bowel tuberculosis, particularly when the small intestine or upper part of the colon is involved, it is sometimes difficult to differentiate this affection from catarrh, dysentery and other inflammatory and ulcerative intestinal diseases, because the manifestations are about the same, but later, when the patient has become emaciated, assumed a tubercular aspect, and exhibits the symptoms previously enumerated, one is justified in suspecting tubercular involvement, especially when the patient has foci in the lungs, joints or elsewhere.

The finding of tubercle bacilli in the discharge or scrapings taken from the lesion should, under the above conditions, establish the diagonsis of intestinal tuberculosis, in spite of the fact that swallowed tubercle bacilli from an infected lung have been found in the stools of patients who had no intestinal lesions.

In the later stages of severe ulcerative tuberculosis, it is impossible to differentiate between the various types, except by obtaining the history and making a careful examination, which will reveal the fact that it is *enteric* if the progress of the disease has been slow, or that it is *entero-peritoneal* if the patient has been profoundly ill almost from the beginning, for in the former there is only superficial involvement of the mucosa and in the latter a rapid involvement of all the bowel tunics.

Ordinarily enteric tuberculosis becomes well established in from six months to a year, while the entero-peritoneal form progresses sufficiently far to produce pronounced manifestations in from three to six months.

There is no excuse for confusing these types of tubercular infection with the *neoplastic* or *hyperplastic* variety, because four or five years are required for the latter to form a tumor and, with the exception of slight catarrhal or obstructive

manifestations, the patient is not greatly disturbed, nor does he look very ill or emaciated.

In other types of the disease nothing can be made out except tender spots and active peristaltic movements, while in hyperplastic tuberculosis one or more large, firm, elastic tumor masses can be seen or located by palpation, at the ileocecal angle; usually the patient suffers less severely from indigestion and exhaustive diarrhea, shows marked symptoms of obstruction, and may exhibit pus accumulations or pyostercoral fistula when perforation or disintegration of the growth has taken place.

The neoplastic is very much more frequently mistaken for carcinoma than other forms of intestinal tuberculosis, because of its tumor-like formation and obstructive manifestations, but it should be readily differentiated from cancer, owing to its slower development, absence of cachexia, and the fact that it occurs in younger persons.

The various types can be satisfactorily diagnosed when located within the sigmoid flexure, rectum, or the perianal region, because both ulcers, tumor and stricture formations can be felt by digital examination, or inspected through the proctoscope or sigmoidoscope, and the discharge and scrapings from the lesions are easily obtainable for examination to determine the presence or absence of tubercle bacilli or tubercular tissue.

Tubercular differ principally from other ulcers in this region by their large size, depth, grayish, uneven base, tubercles upon them, irregular, undermined edges, lack of sensitiveness, tendency towards girdle formation, propensity to heal at one point while they extend in another, and the serous character of the discharge from them.

Peri-anal tuberculosis produces a dermatitis, the skin is of a livid red color, and raised at different points by conglomerate masses, of tubercles but later, when caseation has begun, grayish elevations are to be seen at one point and diminutive excavated depressions at another. When fully developed, one or more large, irregular shaped ulcers with fluted edges are observed upon the skin, which gradually entend in every direction, but with particular rapidity towards the anus, the surface of which are constantly bathed in a serous discharge, with tendency to cause hypertrophic changes and the formation of papillomatous growths similar to those seen upon the mucosa when involved.

TREATMENT

The treatment of intestinal tuberculosis is frequently unsatisfactory, because it often fails, and, when successful, considerable ingenuity and patience are required to effect a cure, and there is always the possibility of re-infection. Routine measures are impracticable because of the varying types and virulence of the disease, the fact that it is primary in one instance, secondary in another, and further, because it is often necessary to suspend the curative for a symptomatic treatment, directed against a particular manifestation which has assumed sudden and pronounced importance.

Measures to improve the general health are of prime importance and should be practiced at the earliest moment. These consist principally in removing the patient from disagreeable and unhygienic surroundings and placing him where he has cheerful companions, plenty of sunshine, fresh air, moderate exercise, diversion, and where he can obtain an abundance of fresh milk, eggs, and other suitable nutrient foods.

It is also important to clothe the patient properly, have him avoid exposure, and

to prescribe tonics or tissue builders, such as Russell's Emulsion of mixed fats and vegetable products, olive oil, eggnog, and cod liver oil preparations. When the patient is anaemic and nervous, iron, strychnia and arsenic may be employed to advantage, alone or in combination with codein, guaiacol or creosote, when the patient has an irritable cough. Good results have been reported from Ferrier's recalcification lime treatment, as well as Wright's injection of the succinimid of mercury, followed by the administration of potassium iodide.

Medical agents are at times indicated in the *symptomatic treatment* of intestinal tuberculosis to relieve diarrhea, pain, hemorrhage, putrefaction and other manifestations, but should be employed with discretion, because they frequently interfere with digestion, induce intestinal catarrh and sometimes cause obstruction through the formation of bismuth enteroliths.

For controlling diarrhea, opium is the remedy *par excellence*, because it diminishes the evacuations, relieves cramps and encourages sleep. The various preparations are serviceable, but powdered opium in 1-2 to 1 grain doses alone, or combined with belladonna, when there is enterospasm, affords the greatest relief, but it is curative only insofar at it gives the bowel rest.

Numerous *antiseptic* and *anti-putrefactive* remedies have been prescribed in the treatment of tubercular diarrhea, but experience has demonstrated that they are ineffective, for the reason that it is impossible to administer them in amounts sufficient to produce a bactericidal effect, owing to their toxic and irritative qualities. The most reliable drugs of this class are calomel, bismuth subnitrate, salicylate and carbonate, salol, betanaphthol, tannoform and, in suitable cases, dilute hydrochloric and sulphuric acids.

Styptic medicines may be prescribed, but are rarely effective except when employed in combination with opium. The most useful and least harmful are lead acetate, gallic acid, tannalbin, ichthoform, subgallate of bismuth and silver nitrate, but the latter should be cautiously employed to avoid argyria.

Koch's *tuberculin* and different *sera* have been employed in the treatment of intestinal tuberculosis, but the writer has never observed any permanent improvement from them.

Irrigating Treatment.—Bowel flushing is beneficial in all types of intestinal tuberculosis, but gives better results in some than other forms, being more effective in the *enteric* or *superficial ulcerative* than in either the enteroperitoneal, hyperplastic, glandular or peritoneal varieties, because the lesions are superficial and easily reached

In the *entero-peritoneal*, or deep ulcerative variety, irrigation accomplishes less, since all the tunics may be diseased, but is beneficial, because it clears the bowel of irritating feces, discharges and toxins, attenuates and dislodges tubercle bacilli, minimizes the danger of mixed infection, increases local resistance, and favors healing of the excoriated mucosa, but, further than this, enteroclysis is useless, because it does not reach foci in the muscular and peritoneal coats.

In *hyperplastic tuberculosis* irrigation improves the accompanying simple or specific catarrh and later when the neoplasm degenerates and large craterlike ulcers form, it limits toxemia, mixed infection and hemorrhage. In *fibro-sclerotic*, *glandular*, and *peritoneal* intestinal tuberculosis, irrigation is helpful but not curative.

There are no specific irrigants, consequently, those effective in other forms of entero-colitis may be employed here. Flushing with water is beneficial, but when

the irrigant has soothing, antiseptic, styptic or healing qualities, better results are obtained, but its chief usefulness is due more to the mechanical effect of the fluid in ridding the bowel of toxins, acrid discharges, putrefying food remnants and foul feces than to the contained medicine. Injected cold (55°-75°F.) solutions are disagreeable, often cause cramps and are quickly expelled, while warm or hot (100°-115° F.) soothe the gut, diminish soreness, relieve enterospasm and are more effective, because longer retained.

When the ulcers are numerous and large and there is exhausting diarrhea, copious bleeding, and quantities of mucus and pus, the writer flushes the bowel every other day with silver nitrate, thirty grains to the quart, followed by a saline irrigation to neutralize and remove any excess of silver, until the stools are less numerous and bleeding is arrested, from which time the bowel is flushed daily with boric acid 3%, ichthyol 1-2 %, balsam of Peru 1%, permanganate of potash 1%, or protargol or argyrol 5%.

Olive oil, neutralol and liquid paraffin, in tablespoonful doses at night are often beneficial, but better results are obtained when they or crude oil are combined with bismuth, aristol, salol or iodoform, and are deposited high up in the colon in amounts varying from four to ten ounces or more, because then they allay muscular spasm, protect the gut from irritation and favor healing of raw surfaces.

Irrigations often fail because the *technic* of their administration is not understood and the tube is permitted to curl up in the rectum or sigmoid flexure. Patients may be permitted to sit in the toilet, or remain upon their back or side when taking an enema to evacuate feces, but irrigations designed for the cure of ulcers should be administered by the physician or a trained attendant. The simplest, quickest and most effective ways of filling the colon with fluid or oil, is to place the patient in the exaggerated knee-chest or inverted posture, introduce the sigmoidoscope and pour the solution through the instrument, or pass full length, a colon tube attached to a funnel and let it flow in gradually, and then escape through the lowered tube, or remain to be evacuated later.

Topical Applications.—Tubercular ulcers of the *sigmoid*, *rectum* and *perianal* regions can be more satisfactorily treated than when higher up, because topical applications can be employed. When ulcers are superficial and high, the treatments are made through the proctoscope by means of a cotton applicator, dipped in a twenty per cent solution of ichthyol and glycerine, balsam of Peru, argyrol, protargol, or a weaker solution of silver nitrate, but when they are sluggish or covered with flabby granulations, these remedies should be used very much stronger. Chemical caustics, like nitric and glacial acetic acids, should never be employed, because they frequently extend to and destroy healthy tissue, consequently, when radical treatment is indicated, the electric or Paquelin cautery should be substituted for them.

Perianal tubercular ulcers require frequent cleansing and about the same topical applications as rectal, but when stimulation and cauterization aggravate the patient's condition, the lesions should be treated twice daily with a 10% solution of methylene blue, or be covered with cotton soaked in an emulsion composed of olive oil Oi, bismuth ℥ii and orthoform ℥i, to allay pain and encourage healing.

Irrigation through the anus and topical applications frequently fail to cure intestinal tuberculosis, because the fluid cannot be made to reach all the diseased gut and, in these and urgent cases, an artificial opening should be made above the

disease so that *through* and *through* irrigation may be practiced, or the affected gut should be resected or excluded from the fecal current.

Surgical Treatment.—Surgery is practiced in the treatment of intestinal tuberculosis more often than a few years ago and with better results. Operative measures have for their object, (a) providing a means of through and through bowel irrigation; (b) putting the affected gut at rest; and (c) removal of the disease. The following are the procedures employed for these purposes:

1. Enterostomy and Colostomy.
2. Appendicostomy.
3. Cecostomy.
4. Gant's Cecostomy with an arrangement for irrigating the large and small intestine.
5. Exclusion.
6. Resection and Amputation.

(1) *Enterostomy* and *Colostomy* are rarely resorted to, because of the disgust which accompanies evacuation of the bowel through an abdominal opening, irritation of the skin by the feces and discharge, occasional prolapse of the gut, and, finally, because a prolonged and serious operation is required for closure of the artificial anus.

(2) *Appendicostomy* has proven extremely valuable in the treatment of tubercular and other ulcers of the large bowel, since it makes thorough irrigation of the colon and rectum feasible. This procedure is often impracticable because the appendix is too short, strictured, otherwise diseased, the outlet closes too quickly, the appendix slips back into the abdomen, or sloughs off through compression or impairment to its circulation, and because it is of no use in small bowel tuberculosis. The technic of appendicostomy by the writer's method is very simple and irrigation can be started immediately. The appendix is reached and brought outside in the usual way, its tip is excised, the stump is ligated around a Gant appendiceal irrigator (Fig IV) with catgut and the abdominal wound closed. Sutures of the appendix and cecum are unnecessary, since the irrigator retains the appendix in place when the operation has been completed (Fig IV). The intestine can be flushed immediately or later and the irrigator closed by inserting the attached stopper.

(3) *Cecostomy* is indicated when the disease is confined to the large bowel, and is preferable to appendicostomy, because it is effective and does not have so many disadvantages.

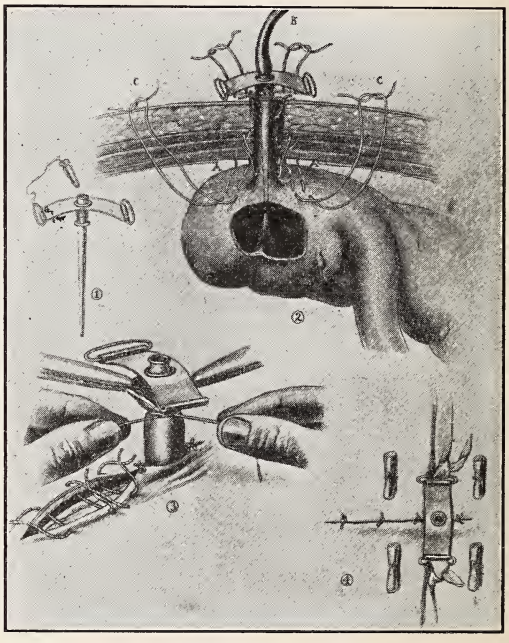


Fig. IV. Gant's Appendicostomy, showing appendicial irrigator in position.

In this procedure the anterior surface of the cecum is exposed, three purse-string sutures are introduced and the bowel is incised inside the suture line. Then a catheter is introduced and the stitches are tied, infolding the gut, which forms a valve around it to prevent subsequent leakage. The operation is then completed by introducing cecal suspensory

sutures, approximating the wound and closing the catheter with a cravet clamp, after it has been attached to the skin by an adhesive strip.

(4) *Gant's Cecostomy, with an arrangement for irrigating separately or simultaneously the small and large bowel*, is the most satisfactory method of obtaining through and through irrigation, because it enables the attendant to treat tubercular and other lesions with equal readiness when located either in the large or small intestine, or both, and to measure and have the solution retained as long as desired.

The operation has been performed many times; there has been no mortality, and the opening has always closed spontaneously after stimulating applications, or cauterization.

Employing the irrigator, shown in the illustrations, the procedure is very simple, requires but fifteen minutes and the bowel can be flushed at once or later. Following exposure of the cecum, introduction of the anterior cecal purse-string stitches and opening of the gut as in ordinary cecostomy, a Gant entero-colonic irrigator (Fig.V) is pushed across the cecum through the ileo-cecal valve and into the small intestine. The inverting or circular valve-forming sutures are then tied, the suspension stitches are introduced and the wound is closed about the irrigator by the layer method.

The instrument can be had in rubber or metal (Figs.V and VI), but the former costs less and is more comfortable because of its pliability than the latter which is more durable. As will be observed, the irrigator has two inner tubes and an inflating attachment which rests in the ileum just above the ileo-cecal valve (Figs. V and VI). The connecting rubber tubings are opened and closed by cravat clamps, (Fig. VI) and the metal irrigator is retained in position by straps which pass from the attached rings around the body, while the rubber instrument is prevented from slipping out by an encircling adhesive strip fastened to the skin.

When the small intestine is to be cleansed

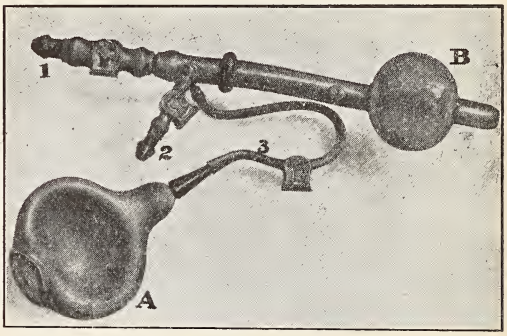


Fig. V. Gant's Rubber Entero-colonic Irrigator. A Bulb for blowing up inflating bag. B Inflating bag. 1 Tube through which irrigating fluid reaches the small intestine. 2 Tube connecting with the colonic irrigator. 3 Inflating tube. The movable hard rubber ring is used to measure the distance to the ileocecal valve, which varies in thin and stout people. The various pipes are seen closed by five cent cravat clamps.

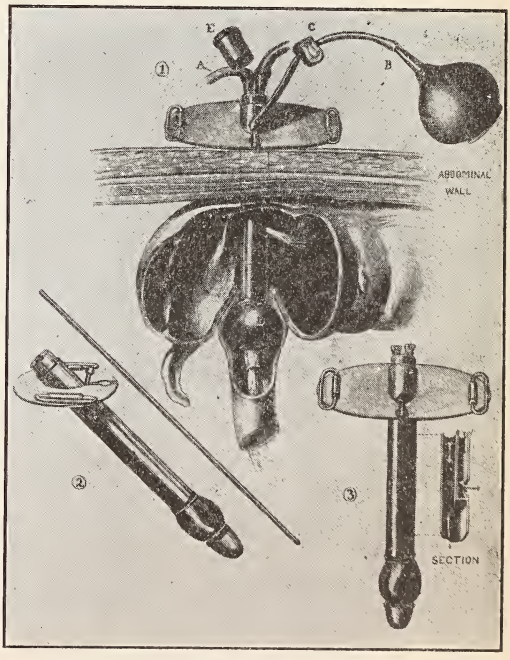


Fig. VI. Gant's Cecostomy, showing his entero-colonic irrigator in position.

the irrigating apparatus is connected with the end of the irrigator and the inflating bag is distended with air if the solution is to be retained in the small bowel, but

when the colon is to be flushed, connection is made with the extension piece at the side and where the small and large intestine are simultaneously washed out, both hard rubber connections are joined to the fluid container tubes.

The advantages of the writer's cecostomy are obvious, since it enables one to treat inflammatory and ulcerative lesions in all parts of the small and large intestine.

The same solutions are indicated in "through and through" irrigation that have been recommended for flushing the bowel by way of the anus, but in both the *position* of the patient should be changed from time to time, to make sure that the fluid reaches all sides of the diseased bowel.

(5) *Intestinal Exclusion*, barring removal of the infected bowel, is the most satisfactory way of surgically treating tuberculosis when irrigation fails, because it diverts the irritating fecal matter and discharges from the affected bowel and gives it a chance to rest and heal. The writer has had occasion in a number of instances to verify the usefulness of this procedure in tubercular and other intestinal affections*.

A segment of the intestine may be excluded by (a) *lateral anastomosis*: (b) *unilateral exclusion*, where the bowel is divided and closed above the disease and the proximal end joined to the gut below it, and (c) *bilateral exclusion*, where the gut is severed and closed on both sides of the lesions and the upper extremity of the intestine is anastomosed with the sigmoid, rectum or other part of the healthy bowel below the foci.

Exclusion is always beneficial; frequently effects a cure, avoids the disgusting features of colostomy, the dangers and complications of resection, and may be employed to advantage in all varieties of tuberculosis.

(6) *Resection and Amputation.*—In aggravated cases of tuberculosis where the patient's condition permits, complete removal of the infected bowel by *enterectomy*, *cecectomy*, *colectomy*, *sigmoidectomy* or *proctectomy*, according to location of the disease, affords the greatest opportunity for temporary relief or a permanent cure. In some instances multiple resection is indicated and it is necessary to remove small or large amounts of the intestine, but, even so, these patients withstand the operation very well. When the patient is extremely debilitated, it is occasionally advisable to short circuit the intestine and give the sufferer an opportunity to recuperate prior to resection.

In a few urgent cases following extirpation, the writer employed the Murphy button, but, in most instances, the through and through suture method was used, both in lateral and end to end anastomosis.

In tubercular subjects, irrespective of where the foci are situated, the mucosa of the entire bowel is usually involved in a simple catarrhal or specific inflammation, and, on account of this it is the writers' custom to join the proximal end of the divided gut to the lowermost feasible point of the intestine, (rectum) particularly in tuberculosis of the lower ileum and colon.

Resections are possible to within an inch of the pelvic floor but, when the rectum is involved, resection and anastomosis are usually unsatisfactory because the wound becomes infected. Owing to this, mobilization of the abdominal segment and amputation of the diseased bowel, followed by suture of the proximal end to the anal skin, is preferable.

If from one to three inches of the lower rectum is involved, the gut can be freed, brought down, amputated and anchored,

*Gant: Constipation and Intestinal Instruction, 1909, P. 409.

with or without opening the peritoneum by means of perineal excision. When the disease is located higher up, some surgeons do a Karske, but this operation is dangerous because of the shock, and leaves many disagreeable sequelae. The writer prefers abdomino-perineal extirpation when the upper rectum and lower sigmoid flexure are involved and approximation of the proximal end to the anal region with preservation of the sphincter muscle, performed in two stages. The abdomen is opened and the bowel mobilized by division of the mesentery, superior hemorrhoidal artery and peritoneum, after which it is pushed into the rectum, when the pelvic peritoneum and abdominal wound are closed. The patient is then placed upon the left side, the sphincter is split, and the lower rectum is freed through a posterior median incision, after which the operation is completed by bringing the bowel down, amputating, suturing it to the skin and closing the wound, following repairing of the split sphincter.

Resection of the small intestine is much easier than that of the cecum, colon or rectum, because the latter are closely bound down by their mesenteric attachments and extensive adhesions which characterize the disease here.

Excision of the cecum and extremities of the ascending colon and ileum for neoplastic (ileo-cecal) tuberculosis is not very dangerous, but it is a tedious operation, owing to the size of the tumor and firm agglutination of the fibrous capsule to the abdominal wall, appendix, loops of intestine, or pelvic organs.

In *anal* and *perianal* tuberculosis, extirpation of the disease is frequently to be discountenanced, because local treatment is usually effective and operation opens up the lymph spaces and, through them, the infection may rapidly extend to terminate the patients' life.

The prognosis following resection and amputation in hyperplastic tuberculosis is very flattering and good results have followed these procedures in the enteric and entero-peritoneal types of the disease, but less is to be expected in the latter, because the intestine is more extensively involved than in the former which ordinarily attacks but a single part of the gut and is less often accompanied by serious lung complications.

Some physicians decry surgery in bowel tuberculosis, but the *condition* of the patient as regards his strength to withstand it, should determine if an operation is best and not the fact that he has a tubercular intestine.

Nearly all subjects afflicted with intestinal tuberculosis have latent or active foci in the lungs which become aggravated and may cause the patient's death when ether is administered, and because of this the writer employs ethyl chloride, gas and oxygen or chloroform in his operations where a general anesthetic is necessary. In a few instances he has succeeded in almost painlessly performing appendicostomy, cecostomy and intestinal exclusion for the relief of tubercular and other lesions of the intestine by infiltration anesthesia, using a 1-8 per cent eucain solution or plain sterile water.

In *conclusion*, the writer would state that his results in this class of cases have been very much better since he began to regard and treat patients afflicted with intestinal tuberculosis on the basis of a *dual* infection, by instituting hygienic and other supportive measures for the lung involvement, and directly treating the bowel lesions by internal medication, irrigation, topical applications or operation when necessary.

137 East Sixty-third Street.

Discussion

Louis J. Hirschman, Detroit: When Dr. Gant started to read his voluminous paper, I started to make notes on the points on which I intended to speak, but they came so thick and fast that if I attempted to discuss the various points, I would not only have to make a note of them, but I would not get through in the morning session. I want to touch briefly on a couple of things the doctor has gone into, not to take issue with him, or to attempt to add to his paper, but, rather, to emphasize one or two points which appealed rather strongly to me, in the treatment of tuberculosis or any ulcerated condition of the bowels. In the first place, one of the most important things to remember, I have long felt, has been the question of making a too hasty diagnosis of tuberculosis of the bowels. We have all been struck with the fact that when a man has a case of diarrhea which has become chronic, the patient loses flesh, but may, or may not have a rise of temperature, but more or less inflammation, and the physician says, Well, I guess we have here a case of intestinal tuberculosis, whether or not there has been an examination for tubercle bacilli, or one of the many tests for tuberculosis has been made. But if one will look more carefully at those cases, he will believe them innocent until proven guilty, and will treat these cases as cases of aggravated local ulceration, not tubercular, or will treat them as cases of auto-infection from these ulcers, and will treat them with flushing from below; or, in the more aggravated cases, doing appendicostomy, or cecostomy, or what not, or will first use ordinary cathartics and local flushing, often these cases will clear up, and prove nothing more than aggravated cases of auto-infection. However, one must be on his guard and on the lookout for latent tuberculosis without the customary symptoms. It is astonishing to find, as we all know, so often in the autopsy room, evidences of tuberculosis, proving that almost every one, at some time in his life, has had tuberculosis. Collier P. Martin made some interesting experiments several years ago, and is still working on these experiments in connection with a suppurative condition of the bowels, in regard to the relation between a suppurative condition of the bowels and tuberculosis; and it is surprising that in a series of twenty-five cases of bowel abscess, he found every one of the patients responded to the Morro test; every patient of the twenty-five showed evidences of tuberculosis. That was a rather startling kind of finding, and he was rather nonplussed, but the explanation of that is simply this: That every one of us has had, at some time or other, tuberculosis, and there is a focus which, under proper conditions, can be revived, and when a person's resistance is reduced, the tubercle bacillus is apt to lift up its head and take notice, and in that way you have a positive reaction. In regard to the flushing of the bowel in tubercular enteritis or colitis, there probably never has been any one operation which has done as much good for relief as the opening of the cecum, either by means of appendicostomy or cecostomy, or flushing the bowels from above. When one stops to think of how we used to flush from below, washing away up into the rectum and colon the waste material that nature was trying to throw down, and then the return of the water, leaving deposits of it all along the line, we were defeating nature's efforts. So that by the flushing from above, or by doing appendicostomy or cecostomy, you are sure that you are not defeating nature, but assisting her, and absolutely cleaning the colon; cleansing and removing all material which would be absorbed, and increasing the patient's resistance to tuberculosis. There are one or two points I would like to speak about, but I will gracefully retire, or give way to other speakers, as the time is limited.

Samuel G. Gant, Closing: I have very little to say. The general impression that tuberculosis of the rectum is common, seems to me to be an erroneous one. It is not common. Even fistula is not common, and only five per cent of the cases of fistula are tubercular. You will not find tubercule bacilli in many of the cases where they are suspected.

DIAGNOSIS OF HEART DISEASE*

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Ft. Wayne, Ind.

The invitation to discuss the subject of "The Diagnosis of Heart Disease" before the great Michigan State Medical Society, carries with it a compliment which, I assure you, is fully appreciated. The magnitude of the task, however, which I have had the temerity to accept, has grown upon me as the hour of the meeting approached. The obvious impossibility of fully presenting so vast a subject within the proper limits of a society paper, has forced upon me the difficult task of selecting from the mass of clinical data those which would be most timely and practical. My principle anxiety is lest I should, on the one hand, give undue time and prominence to what some may regard as ultra-scientific methods, or, in the endeavor to avoid this extreme, adhere somewhat too closely to the more commonplace and familiar methods. These are, of course, fundamental, and their consideration unavoidable in any general view of the subject, even in barest outline. The developments in the last few years have been quite revolutionary in character. Not since the days of Laennec, has any thing so fundamental been written into the history of cardiac pathology and diagnosis. The names of Gaskell, His, Krehl, MacKenzie, Erlanger, Hirschfelder, and others have been inseparably linked with the brilliant march of events. Physics and physiology, have been ransacked and the rich fruitage of the wonderful nineteenth century laid at the feet of the clinician, who has utilized it to a remarkable degree.

To diagnose, or know through, the diseases of any organ, involves a comprehensive understanding of its physiology and pathology, and a rational interpretation of the various symptoms and signs which indicate a departure from the norme. In the case of the heart, a hollow muscular organ, charged with the maintenance of the circulation by its propelling force, aided or obstructed, as the case may be, by certain auxiliary conditions of the arteriovenous tree, the broad practical questions of diagnosis have to do with the present and prospective functional capacity of this organ. It is perfectly obvious that this depends, primarily, upon the integrity and efficiency of the myocardium. Other factors, especially the valvular mechanism and nervous system, play important, though usually subsidiary roles. Their significance is really determined by their effect upon the heart muscle so that in the final analysis this remains clinically supreme, though its pathology may, of course, depend upon overstrain in compensating a badly leaking valve, the embarrassment of extra-cardiac anatomical conditions, perverted innervation, toxemias, etc.

The first thing that I would like to insist upon in dealing with a case of suspected heart disease is the importance of a full, accurate, and detailed anamnesis.

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911

Proceeding then with the physical examination, a few points only can be referred to. Inspection should be made with a deliberation commensurate with its great importance. It is too often cursory. The contour of the chest wall, respiratory movements, intercostal and cervical pulsations, demand careful attention. They should be carefully looked at and then as carefully palpated. Palpation is a much neglected art. The finger, the third eye of the diagnostician, will reveal secrets that can neither be seen nor heard. The qualities of the cardiac impulses, the presence or absence of vibrations, the tension of intercostal spaces, and anything of interest in cervical and abdominal, as well as chest areas, should be critically palpated.

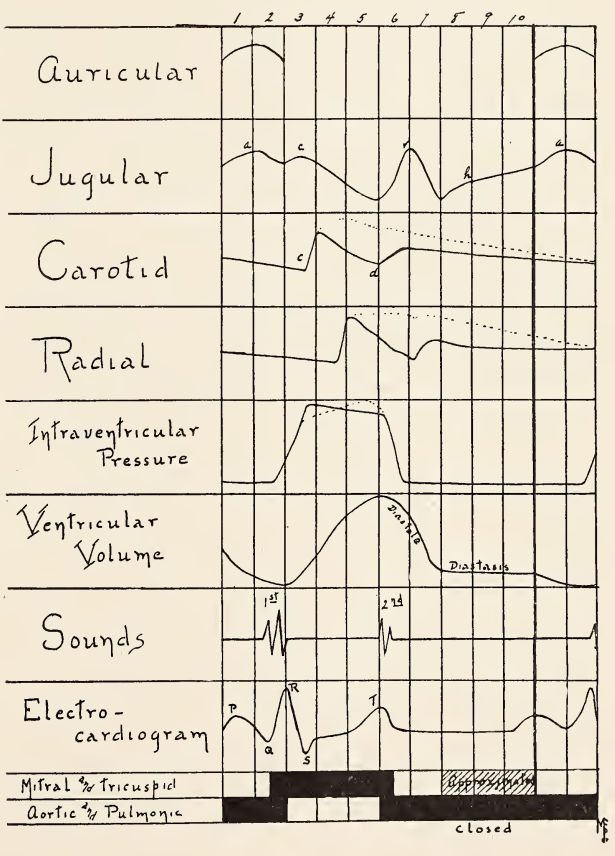
The outline of the heart, some information concerning which has already been obtained by inspection and palpation, is then determined by percussion or auscultatory percussion, or both. Personally, I have for years been obtaining my preliminary information by placing the stethoscope over the area of superficial cardiac dullness and making light percussion or friction across the lines of probable relative dullness. I rarely ever have to materially revise the first impression obtained in this manner, which is, of course, corroborated by ordinary percussion, and possibly, by the X-Ray. With regard to the latter I may say that I have had considerable experience in the ordinary fluoroscopic inspection of the heart and consider it of great value, not only in determining the outline of the heart, but in studying the character of the cardiac movements. The introduction by Moritz of the orthodiagraph by the elimination of certain errors incidental to the divergent character of the rays, which necessarily magnifies the object on the screen, furnishes the most accurate method known for a scientifically exact outline of the heart.

Not only the size but the contour of the cardiac area is of diagnostic importance; for instance, its narrow and elongated shape in hypertrophy of the left ventricle, resulting from aortic insufficiency.

The importance of auscultation in cardiac diagnosis is certainly very great, although it has, in the past, occupied a somewhat too commanding position, and has had a distinct tendency to concentrate attention too exclusively upon valvular conditions. The knowledge which it gives is, of course, indispensable, but to say that a valve is incompetent, or an orifice stenotic, is scant information and unsupported leads to no practical conclusion. It is true that it reveals an anatomical change which may indeed be transient or permanent, but the effect upon the functional capacity of the heart may, in some cases, never be appreciable, while in others, it causes serious strain, leading to extensive compensatory change, which may finally compromise the heart.

A detailed discussion of auscultatory signs is, of course, out of the question. A thorough study of the heart murmurs present in any individual case is of the utmost importance. The subject of murmurs is too large for full discussion here. They may occur without valvular disease, and incompetent valves may exist without murmurs. They may even point to one valve when, as a matter of fact, they are the result of a lesion in another, as in the case of the presystolic rumble, or Austin Flint murmur, primarily dependent upon aortic regurgitation, but heard in the mitral area, because of the imperfect apposition of the mitral cusps in the presystolic period. Neither their presence nor their absence, therefore, is entitled to any finality in diagnosis. If really organic, I would venture to say that their

general importance is inversely proportional to their loudness and duration. It is perfectly obvious, therefore, that the significance of murmurs depends upon the associated signs and symptoms. Nevertheless, it is important to determine the nature of organic murmurs, and to distinguish between the organic and the accidental. I can only take time to remark that the latter are more frequently systolic, and occupy the mid-systolic period, while organic and especially, regurgitant systolic bruits are heard throughout systole. Further accidental murmurs are modified or disappear by position or respiration, and are not transmitted like organic murmurs. Murmurs of incompetence due to muscular weakness must be constantly borne in mind.



Auscultation, of course, gives much information aside from the presence or absence of murmurs. Rhythm can be approximately determined by the practiced ear, although, of course, graphic tracings are necessary for its complete elucidation. The character of the heart sounds is important. The snapping character of the first sound heard in mitral stenosis, and in thirty per cent of the cases of aortic insufficiency, and the accentuation of the aortic and pulmonic second sounds, need only be mentioned as examples of important changes, recognizable in this manner.

The arterial and venous pulse have recently assumed tremendous clinical importance. The frequency, force, volume, and other qualities, especially of the radial pulse, have long been considered of diagnostic value. The introduction of the sphygmograph marked the beginning of a new epoch, more because of what it leads to than for its intrinsic value. The radial sphygmogram, standing by itself, does not furnish very many diagnostic data. The angle of ascent, the duration and character of the summit, and the curve of descent of the sphygmogram are the important points, indicating the rapidity with which and extent to which the artery fills and collapses. The study of the pulse of the cervical veins by graphic methods, the tracings being taken synchronously with tracings of the radial pulse, is the most important step taken in cardiac diagnosis within half a century.

These tracings, together with those of the apex beat of the heart, and even of respiration, can be placed parallel on a recording surface with time markings in-

dicating fifths or tenths of a second, so that the chronological order and duration of the different cardio vascular events can be determined with great accuracy. The MacKenzie and Jacquet polygraphs are in most common use. My own experience has been with the MacKenzie polygraph, which is simply a Dudgeons sphygmograph with an attachmnt for the venous tracings, or apex or epigastric impulses.

The accompanying diagram explains the physics and physiology of these records.

In this diagram the vertical spaces from 1 to 10 inclusive represent a complete cardiac cycle, the space between vertical lines representing 1-10 second, and the rate of the heart being just 60 per minute. In the jugular tracing the first wave *a* is caused by the contraction of the auricle, increasing the intra-auricular pressure and causing sudden distension, i. e., pulsation of the jugular vein. In the interval between the contraction of the auricle and ventricle the jugular pressure drops to rise again at *c*, when, but not altogether because the carotid dilates with the ventricular systole. The time from *a* to *c* is, perhaps, the most important incident in the graphic tracing of the venous pulse. It represents the time between the contraction of the auricle and the ventricle, or the time required to transmit the normal rhythmical stimulus from the sinus venosus, where it produces the auricular systole to, the ventricle,where it causes the ventricular systole. This period is normally about 1–10 of a second, but when conductivity is impaired, its duration is greatly increased. This occurs in partial heart block, whether due to organic disease, or functional depression of the bundle of His. A little later in the cardiac cycle appears the *x* fall, due to relaxation of the auricle, depression of the auriculo ventricular valves by the papillary muscles and exaggerated intra-thoracic negative pressure due to ventricular contraction. Still later comes the *v* wave due, MacKenzie thinks, to ventricular stasis, though other factors are probably operative. The carotid and radial tracings have the value of the sphygmographic records already referred to, and, in addition, are placed in their proper time relation to each other, and to other cardiac events. The intra-ventricular pressure and ventricular volume are graphically shown in order to complete the kaleidoscopic picture. The normal sounds of the heart, as recorded by the cardiophonograph, are also shown in their correct chronological positions. Bruits can be similarly recorded and accurately and scientifically studied in a manner not possible by any other method. In the electro cardiogram the wave *p* is caused by the contraction of the auricle, while the waves *Q R* and *S T* are caused by contraction of the ventricles. These waves undergo characteristic changes in certain conditions. The wave, *Q R*, for instance, is inverted in hypertrophy of the left ventricle. The position of the valves is shown in the last two horizontal columns. Finally, it should be added, that the dotted lines in the tracings, showing the carotid and radial pulses and intraventricular pressure, are high blood pressure phenomena. In the case of the arteries, the plateau is sustained, and the very gradual fall tells the story of the relatively slow escape of the arterial column through contracted arterioles. Intra-ventricular pressure is seen to rise during systole rather than to fall, as it should, until, finally the closure of the semi-lunar valves produces a sudden fall.

The use of the polygraphic method in the diagnosis of heart block has already been referred to. The different forms of arrhythmia can only be accurately differentiated in this way, and upon such differentiation depends rational treatment and

intelligent prognosis, as well as scientific classification. Paralysis of the auricle causes absence of the *a* wave upon the venous pulse, and is thus easily recognized This condition is usually, but not always, found in the so-called absolute arrhythmia of chronic myocardial or valvular disease. The technical difficulties attending these methods of investigation are not very great, and are easily within reach of the diagnostician who has had some little training in technical methods. I may say that with the MacKenzie polygraph by far the most difficult procedure is to adjust the sphygmograph over the radical artery and keep it there throughout the observation.

The electro cardiograph and cardio phonograph tracings which have already been discussed should be further mentioned as remarkable applications of highly technical scientific knowledge and methods in the solution of the more intricate problems of cardiac diagnosis. The electro cardiograph, by means of a delicate mechanism, records the electrical perturbations produced in the body by the contraction of the heart muscle. The application of the cardio-phonograph is perfectly apparent. It is as impossible to measure the exact duration and time relation of a cardiac sound with the unaided ear as to decipher the venous pulse by simple inspection of the pulsating cervical veins. With the cardio-phonograph, this can be done with absolute accuracy to a minute fraction of a second. A broadening and clarification of our views of cardiac pathology may safely be predicted as a result of investigations rendered possible by these methods, and, indeed, such results have already been attained.

The clinical study of blood pressure is absolutely essential in cardiac diagnosis, although largely dependent upon extra cardiac conditions. The methods of determination are well known and need not detain us long. Personally I use the Riva Rocci armlet with Tycos pressure gauge for routine consultation work, but have the Erlanger sphygmomanometer for special cases in office and hospital.

Diagnostically, three factors should be kept in view in high pressure cases, viz; 1. Organic changes in peripheral vessels. 2. Arterial spasm. 3. Over excitable myocardium. The second and third factors are amenable to treatment, and hence the importance of their recognition. Even though arterio-sclerosis is present, the other factors commonly play a conspicuous and even, as I have frequently found, a dominant role. Their correction, which is often possible, greatly lessens the strain upon the myocardium which is usually crippled by chronic changes.

Let us now glance at this subject from another point of view. The events constituting the triad of respiratory embarrassment, hepatic engorgement, and dropsy, stand as the time honored clinical signposts of a failing heart. It would be difficult to overestimate the importance of these clinical pictures. It is not necessary, nor, indeed, possible, on this occasion, to dwell at length upon them. Hepatic engorgement, I am inclined to believe, is not sought for as constantly as it should be, nor commonly assigned the importance which is its due. Another point which possibly needs emphasis, is that fatal forms of heart disease may exist without any one of these phenomena being obtrusively present, or, perhaps, present at all. They may be absent, e. g., in heart block, the efficiency of the myocardium not being necessarily impaired. Respiratory embarrassment is, perhaps, the most common symptom of cardiac disease. We must remember, however, that so far as the heart is concerned, it is simply an expression of myocardial weak-

ness, and that other functions may be seriously, even fatally involved without this particular symptom. The frightful clinical picture of coronary disease, as remarked by Heberden and Rougnon in their original monograph on angina pectoris, may have "at the beginning no shortness of breath."

It is perfectly obvious, therefore, that we must look beyond what might be termed, the grosser phenomena of cardiac disease, for those more occult changes, the recognition of which though still difficult is becoming increasingly more possible. Clinical experience and laboratory research must merge their rays with those of pathological anatomy, and all must be focused upon the clinical problems presented by such cases. The patient can reasonably demand this much, and scientific medicine can consistently offer no less.

In thus hastily traversing the subject of cardiac diagnosis, I am reminded of a certain young man who, it was alleged, had "gone through college." It transpired that he had gone in at one door and out at another. This is about what I have done with this subject. But if, in this rapid survey, I have been able to indicate what are the main objects of cardiac diagnosis, to place in their proper light a few of the more important methods and data, although necessarily leaving untouched many others scarcely less important, I have accomplished my design.

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DIGITALIS AND ALLIED DRUGS AND DIGESTION

Worth Hale, Washington, D. C., (*Journal A. M. A.* November 4), discusses the question of the action of the digestive secretions on the glucosids of the digitalis group and notices the work that has been done on this subject by Deucher, Lowry, and Hatcher and Bailey. Their findings raise the important question as to the proper dosage of the drug and it seems to him that, if deterioration goes on in the stomach and intestines before absorption, it is necessary to establish the fact and ascertain the real effecting action of the drug and the dosage. He therefore thought that further experiments in this line were desirable, not only as confirmatory of the results of the authors mentioned, but also to test the rate of deterioration by use of an exact assay method and subjecting the drug to the action of the digestive agents to more nearly analogous conditions to those in the living animal. For the purpose of assaying the preparation before and after digestion, the one-hour frog-heart method was used, consisting in determining the least amount of the drug which will just produce permanent cystole of the ventricle of the frog, *Rana pipiens*, at the end of one hour. The method of his experiments is given in detail, digitoxin being the first preparation examined followed by French digitalin, digitalein, tincture of digitalis and strophanthus. Control assays were also made with each. From this series of experiments it was noted that the acid of the gastric secretion invariably causes some diminution in the action of the glucosids of digitalis and strophanthus. He does not consider an exact measure of the degree of decomposition in practice can be made, as it is probable that the rate is somewhat more rapid under actual conditions *in vivo*, owing to the motility of the stomach and the greater dilution. The rate of deterioration appears, however, to be about the same for all, about 25 to 35 per cent in three hours. The further factor of the action of the decomposition products of these glucosids must be considered and it is possible that certain of the untoward effects of digitalis medication may be due to them. It would seem advisable, therefore, to prevent such decomposition, if possible, and it is suggested that this might be done by requiring the official galenical preparations to be neutral and, in practice, by prescribing an alkali along with the digitalis. Ignoring the specific irritant action of these bodies on the intestinal tract, it would also seem advisable that the drug should be given between rather than at meals when the gastric acidity is at the maximum. Such a procedure might possibly not cause undue irritation if a large quantity of fluid were taken at the same time.

THE HEART IN THE ACUTE INFECTIONS*

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At any time during the course of one of the serious, infectious diseases, the practitioner may be called upon to combat an acutely failing circulation. The use of the term, "heart failure," as applied to this clinical condition, is not objectionable, if the pathological conditions underlying it are understood. Unfortunately, however, the term is often interpreted too literally and results in misapplied or inefficient therapeutics.

While our knowledge of the pathological conditions underlying heart failure is still imperfect, the great activity in the study of the pathology and therapeutics of the circulation in the last few years, has added very much to our understanding of these conditions.

The pathological conditions that may develop during the acute infections and give rise to the clinical phenomena of heart failure are:

1. Acute myocardial degeneration.
2. Acute myocarditis.
3. Acute cardiac dilatation.
4. Vasomotor paralysis.
5. Cardiac neuritis.

Any one of these conditions, or a combination of two or more of them, may be present in any of the severe acute infections. With such a complex pathological condition, the clinical phenomena will present the most variegated picture, and will often present great difficulties of interpretation.

It is probable that acute degeneration of the myocardium results in every acute general infection attended by fever and other symptoms of toxemia. The extent of this degeneration will depend on the type, the virulence, and the duration of the infection. There seems to be much confusion between acute degeneration of the myocardium and acute myocarditis and their relation to each other. The best opinions seem to favor the view that while acute degeneration of some degree is always present in the acute febrile diseases, only in certain cases are there the pathological changes of inflammation, namely, oedematous effusion into the muscle or between the muscular fibers, with cellular infiltration.

Oedema and cellular infiltration may preceed, accompany, or follow the onset of degeneration of the muscular fibers. The degeneration may be parenchymatous, fatty, or hyaline. Usually, two or more of these forms of degeneration can be demonstrated. In certain diseases, one or another of these degenerations will predominate; for example; in scarlet fever, parenchymatous and hyaline degeneration, and in diphtheria, fatty degeneration is most pronuonced.

Krehl found acute myocardial lesions most frequently in the papillary muscles of the left ventricle and in the muscles surrounding the left auriculoventricular ring. The infection is carried to the myocardium through the coronary arteries and their branches.

The character of the pathological changes resulting from the infection of the myocardium by micro-organism, or their toxins will depend upon the nature and virulence of the infection. In the severe infections, like those produced by the pyrogenic cocci, septic thrombi plug the arteries and form minute abscesses. "In the less virulent infections, such as rheumatism,

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typhoid fever, influenza, the foci do not undergo suppuration, but the lymph spaces around the arteries and capillaries are filled with cellular infiltration; polymorphonuclear in most of the acute infectious diseases, while monouclear cells predominate in myocarditis from typhoid fever and subacute rheumatism."

The fate of the myocardium will depend upon the variety and duration of the infection. In the mild febrile conditions with slight degenerative changes, regeneration of the muscular fibers promptly takes place with the onset of the convalescence. In inflammation of moderate severity, absorption of the oedema and cellular exudate takes place, and, in a reasonable time, the myocardium is restored to its normal condition. After complete destruction of areas of muscular fibers, scar tissue replcaes the destroyed muscle-fibres and compensatory hypertrophy of the surrounding fibers maintain the strength of the heart.

In certain prolonged cases, chronic interstitial myocarditis is developed. In tracing back the history of cases of chronic myocarditis that come with symptoms of failing, or broken compensation, we usually find that the chronic condition had its origin in an attack of rheumatism, typhoid fever, or influenza, of several years previous. In the last two or three years I have freqeuntly noted, in these chronic heart cases, a history of severe influenza with prolonged and imperfect convalescence that took place during the severe epidemic of twenty years ago.

Heart failure from acute myocardial degeneration and inflammation does not usually come in the early days of an acute infection. Time must be given for the degenerative changes to weaken the heart. In diphtheria, however, possibly in pneumonia, myocardial changes advance with great rapidity and by the end of the first week may threaten life. In typhoid, influenza, and other prolonged infections, the myocardium does not cause apprehension until the second or third week, or later.

Cardiac dilatation, occurring during the course of an acute infection is the result of overstrain of a heart previously weakened by acute or chronic myocardial change. The normal myocardium has such an abundant reserve that it will withstand the strain of a greatly increased intra-ventricular pressure. In the physical weakness and disability of an acute disease, great physical exertion is rare, so that the normal heart would easily endure any strain that, in all probability, would be put upon it. An exception to this may be met with in pneumonia. In this disease, pulmonary obstruction may put such a load upon the right heart that it may be overstrained and dilated.

Vasomotor paralysis is the pathological condition that most frequently causes what is known as "heart failure" in the acute infections. Romberg and Passler have shown that the bacterial toxins act directly upon the medullary vasomotor center and diminish and paralyze its tonic activity. Henderson believes that the febrile state, in itself, with increased respiration and rapid loss of CO_2 (the normal stimulus to vasoconstriction) co-operates with the toxins in producing the vasomotor paralysis of the acute infection.

By counteracting vasodilation, it can be shown that the strength of the heart in vasomotor paralysis is undiminished. The condition is analagous to surgical shock. The vessels of the brain, the muscles and the skin are empty, while the vessels of the splancnic area are over-filled. The patient bleeds into his splancnic vessels, and cardiac asystole results from the loss of the normal stimulus to contraction.

Cardiac neuritis, as the cause of heart

failure is not, as yet, a pathological demonstration. The sudden death that may come in the late period of diphtheria and influenza, has been thought to be due to acute degenerative changes in the nervous mechanism of the heart. The slow heart, so often a prelude to the asystole, is, perhaps, better explained as a heart block, incident to myocarditis, involving the auriculo-ventricular bundle.

Is it possible for purposes of treatment to differentiate between the several pathological conditions that give rise to heart failure in the acute infections? Unfortunately, a diagnosis can be but approximate. The clinical phenomena that are caused by the pathological conditions are not always clear cut, and, as we have learned, two or more of the pathological conditions may be operative at the same time. Facing a suddenly failing heart in an acute disease, the physician must act promptly.

There are some good working rules that may here be applied, although they are necessarily subject to exceptions.

First. Circulatory failure in the first few days of an actue infection is usually due to vasomotor paralysis. Severe diphtheria, however, may cause early fatty degeneration of the myocardium and, in all severe septic intoxications with primary cardiac weakness, degeneration may, to some extent, complicate the situation.

Second. In circulatory failure during the second week vasomotor paralysis is still an important factor, although myocardial changes are usually present. Dilatation of the heart without advanced myocardial degeneration may, in pneumonia, be a complication.

Third. The failing heart in the late stages of an acute infection is the result of myocarditis with or without dilatation. Vasomotor paralysis may be more or less a factor, although of secondary importance.

In vasomotor paralysis the splancnic area is overloaded; the vessels of the rest of the body are empty; blood pressure is low, and the heart rapidly weakens from failure of coronary circulation and normal intra-ventricular pressure. The remedies that are available to stimulate vaso-constriction are:

Adrenalin, Pitutiary extract, caffein, alcohol, camphor, digitalis, strophanthus. strychnin.

These are also the remedies used for cardiac dilatation and myocardial degeneration. Their indications can profitably be considered together. The treatment of late cumulating effects is the treatment of myocarditis.

Adrenalin acts directly upon the muscles of the vessel wall or upon the nerves ending in them, and without the intervention of the vaso-constrictor center. It promptly raises blood pressure. Its action is chiefly upon the abdominal blood vessels. The vessels of the heart, lungs and brain are not constricted. It has a digitalis like action upon the ventricles.

It is thus the ideal remedy for vasodilator crises. In the early heart failure of diphtheria, pneumonia, acute diarrheal diseases, influenza and other infections, it may be life saving. Its action is short and the dose must be repeated at frequent intervals. Five minims of a 1 to 1000 solution, diluted or not, by sterile salt solution, may be injected intra-venously or intra-muscularly, and repeated half hourly or hourly until fixed improvement comes. It has but little or no action upon the vessels when administered subcutaneously or by the stomach. Pititiary extract has not as yet come into general use. It promises to be even more useful than adrenalin in the vasodilator crises of the acute infections. Its action upon the vessels is sharp and more prolonged than that of adrenalin, and what may prove of

great importance, it is a powerful diuretic, thus adding elimination to stimulation.

Camphor, two or three grains in sterile oil, hypodermically, every one or two hours, is always available. It is not contra-indicated in myocardial degeneration or in dilatation, and is thus one of our most useful remedies in circulatory failure attended by vasomotor paralysis and ventricular incompetence.

Caffein hypodermically, two or three grains frequently repeated, ranks second to adrenalin in its vaso-constricter action. It is a powerful diuretic, and theoretically and practically it is one of our most reliable remedies in combating acute circulatory failure.

Although digitalis is one of the best studied drugs, the indications for its use in conditions of circulatory failure in acute diseases is still a subject of discussion. It raises blood pressure by constricting the vessels and increasing ventricular vigor. It should be of value in vasomotor paralysis, and clinical experience, I believe, confirms this. It is too slow of action, even administered hypodermically, in an emergency, so that adrenalin, caffein, or camphor must be given before or with it to hold the patient until its effects can be obtained. It may be given hypodermically in the form of digitalone, digalen or digipuratum. It has recently been shown that added to normal saline solution, digitalis is rapidly absorbed from the colon and its therapeutic effect can be noted in one or two hours. This may be a valuable expedient in many cases. In the early heart failure of pneumonia, or during the crisis, even with dilatation, which occurs here without myocardial degeneration, its action is good.

With the suspicion of a degenerated myocardium, the physician will hesitate to give digitalis. The toxemic and degenerated myocardium is particularly sensitive to its action. Small doses easily produce toxic effects and it should always be given with extreme caution.

Strophanin, intravenously, is one of the recent additions to our remedies in circulatory failure. In the failing heart of chronic valvular diseases and chronic myocarditis, it acts remarkably to restore compensation. In acute cardiac failure, as in pneumonia, in which there is dilatation, without advanced myocardial degeneration, strophanin may prove valuable.

From personal observation, it would appear that the first remedy most physicians consider when confronted with acute heart failure, is strychnin. This alkaloid has little effect upon the heart, and clinical experiments show that it has but slight effect upon the arterial blood pressure. In the emergency of acute circulatory failure, it would seem that its importance is overestimated and that it too often is used to the exclusion of better remedies.

In every case of failing circulation the question of the administration of alcohol will come up. In the failure dependent upon vasomotor paralysis alone, alcohol should have no place, but in conditions in which myocardial enfeeblement is prominent, alcohol in dietetic doses will act with benefit.

To consider the therapeutics of the conditions that lead up to acute circulatory failure would take us too far afield. In the acute infections, circulatory failure is the most frequent cause of death, and toxemia lies at the basis of an exhausted circulation.

From the onset of the disease it should be the aim of the physician to limit toxemia by the administration of specifics, early, as in diphtheria and rheumatism; the maintenance of free elimination; the intelligent use of hydrotherapy, and careful attention to dietetics and the hygiene of the sick room.

THE MANAGEMENT OF HEART CASES IN GENERAL PRACTICE*

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Diseases of the heart and vascular system form a large part of a general medical practice. It is our purpose to discuss the handling of some of the most common of these conditions as seen by the physician who has for diagnosis only his hand and eye, his stethoscope and blood pressure apparatus, but who does not have access to X-Ray plates or radial and venous tracings. While the latter are certainly very valuable in cardiac conditions, the transportation of materials and the interruptions in the office make their use next to impossible in general work. No physician should practice without having and using a reliable blood pressure apparatus. The information obtained will more than repay the slight cost and inconvenience which it causes.

We will first take up a few of the conditions whose proper management may, possibly, avert the occurrence of later valvular, muscular or nervous affections of the heart.

Careful examination of the throats of children, preferably by a specialist, and the removal or treatment of enlarged and septic tonsils would, undoubtedly, prevent the occurrence of many diseased hearts. Medical inspection of schools is sure to be of great value along this line.

The proper care of our cases of rheumatic fever, especially as regards enforcement of rest during and following the attack, will do much to prevent or to modify the endocarditis and the resulting damage to the valves. The careful administration of the salicylates is believed by most men to lessen the liability of an infection of the endocardium.

The indiscriminate use of antipyretics of the analin series for pain and headache should be discouraged. Before prescribing aspirin, acetanilid, or phenacetin, the heart should be examined, and if there are any signs of valvular disease or muscular weakness, these drugs should not be used or should be given in small doses, combined with caffein, camphor, or atropine, and the patient should be kept absolutely quiet and carefully watched during their administration.

The proper administration of the least possible amount of an anesthetic, and the administration of all anesthetics by persons skilled in that line of work, are factors which are worth careful consideration. The regulation of the use of tobacco, tea and coffee and the alcoholic drinks, particularly beer, are important in avoiding nervous and myocardial conditions.

We cannot, in acute infections, forsee nor prevent cardiac complications or sequelæ, but hydrotherapy, the promotion of proper elimination, the use of cardiac stimulants at critical periods, and the gradual resumption of bodily movements seem to be the most rational means of procedure. In pneumonia, in our attempts to secure proper elimination, there is a tendency to give too much liquid and overload the already burdened heart. The

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cough of measles, whooping cough, and colds of children should be sufficiently controlled to prevent injury to the heart from the severe straining and the increased intra-thoracic pressure.

In all heart cases there are some general principles to be borne in mind.

First. We should make careful, complete and repeated physical examinations. Modest women and busy men often do not wish to have their chest and abdomen completely bared for a proper examination. Nevertheless, a thorough examination will be more apt to enable the physician to understand the nature and extent of the lesion, the treatment best fitted for it, and the progress of the case if treatment has already been started. It will also give the patient a greater degree of confidence in the physician.

Second. We should have the courage of our convictions and be prepared to insist firmly upon what we consider proper management, even if it entails a change of occupation and habits, or a prolonged rest.

Third. We owe it to our patients to become as familiar as possible with the whole subject of cardiac pathology, to study the methods of others, profit by their results and avoid their errors.

Fourth. We should make all our directions to patients plain and definite.

There is a peculiar relationship between pathology and symptoms in heart affections. So many other factors besides the mechanical action of the heart are concerned in maintaining the circulation, and the branches of the circulatory system are so widely distributed, that the symptoms of cardiac insufficiency often seem far remote from the heart itself. In no other organ except, possibly the brain, are central lesions productive of so wide and varied symptoms in other parts of the body. The fact that heart lesions are very seldom simple but are complications of, or are complicated by, lesions in other organs, makes the management of these cases very difficult and complex. In fact, many of our cases of endocarditis are not recognized at all until, perhaps, years afterwards, the resulting damage to the valves attracts attention during a routine physical examination or an acute cardiac insufficiency.

Acute endocarditis is one of the most important diseases of the heart, not only on account of its frequency, but of the resulting damage to the valves. Osler places it as the most serious single infection in children, being responsible for almost as many deaths as all the exanthematous affections together. Following, as it does, most often after tonsilitis or rheumatism and with fever sometimes as almost the only symptom, there is little wonder that it is hard to recognize. However, the persistence of daily rises in temperature after subsidence of the arthritis or the tonsilitis, with or without enlargement of the heart, and slight dyspnoea and a changeable murmur at the apex, are usually present and may be taken as sufficient exidence of a valvulitis. The management of these cases is difficult, to say the least. With the lessening or disappearance of the pain after rheumatism, the child is usually anxious to be about the house,or out of doors and the parents often urge to have the child out of bed. It becomes necessary to talk very plainly to the parents and insist on a prolonged period of as nearly absolute rest as is possible to secure. The drug treatment is very unsatisfactory, but the salicylates, quinine and potassium iodide seem to be the most reliable. At present, we can only hope to restrict the damage to the heart as much as possible.

Still more hopeless are the cases of malignant endocarditis which are more easily recognized, but are practically incurable. In the last two years we have seen four

very typical cases, with wide daily ranges of temperature, comparative little inconvenience in the early stages but with progressive weakness, pains and stiffness of the joints, and a petechial rash over the chest, arms and abdomen. In all of these cases there were previous, but fairly compensated, valvular lesions. It is well to bear in mind that an infection with a streptococcus or a stapylococcus may exist without a leucocytosis, as we found, somewhat to our surprise, a few weeks ago, in a case in which streptococci were isolated from the blood and in which autopsy showed extensive vegetations and ulcerations of the mitral valve.

There is a large class of heart cases in which our advice and treatment is much more satisfactory. We refer to cases of fairly well compensated valvular lesions. These, as you well know, are very common and comprise people in all occupations of life. In this class of cases we believe that by regulating the work and habits of the individual and prescribing rest when the first signs of decompensation appear, we can do more good than by the continued use of cardiac stimulants. In other words, if rest, alone, will enable the heart to overcome the temporary dilatation, we advise against the use of digitalis to accomplish it. In many of these cases we find the original offender, the diseased tonsil, still present, with a tendency to recurrent attacks of tonsilitis and pharyngitis. It is very desirable to have the tonsils removed preferably with local anesthesia during a period of good compensation.

Cases which require more active treatment are those with more serious valvular lesions, accompanied by myocardial degeneration. The serious break in compensation may have followed a sudden run, or strain, a railroad journey, or a week of hard work. When a case is seen for the first time, during a serious break in compensation, it is often difficult to tell what was the original valve lesion, as the dilatation may obscure the typical hypertrophy. In the treatment of acute insufficiency, absolute rest is of first importance. The dyspnoea and restlessness make this very difficult to secure, and it is often necessary to use codeine, morphine or chloral. In regard to position, the comfort of the patient should be considered so long as it does not involve exertion on his part. These cases of acute dilatation should be treated at home and not sent or taken by train to a hospital. Several times we have seen patients with cyanosis, dyspnoea and marked oedema, walking or being carried into a hospital, almost completely exhausted. The extra strain of the journey on the already overtaxed heart is often too much and death ensues, which might have been averted by absolute rest and treatment at home. It is good treatment to give a strong mercurial or saline cathartic with an ice bag, or hot water bottle over the heart for two or three days before attempting the use of drugs to act directly upon the heart. Venesection is often of decided value in relieving the heart, temporarily. The diet should be very light and fluids should be reasonably restricted. If there is much congestion of the gastric mucous membrane, with vomiting, one or two days of feeding with small amounts of albumen water or peptonized milk, may be necessary until the vomiting ceases. Among the drugs which aid in restoring compensation the digitalis series, of course, stands first. In acute decompensation we believe it is better to give the drug in doses large enough to get the physiological effect. This will depend somewhat on the preparation and a good deal on the patient. Fifteen or twenty drops of the standardized tincture of digitalis four times a day will usually cause diuresis, slowing of the pulse and slight

nausea on the fourth or fifth day. Usually, by this time, the oedema, cyanosis and dyspnoea have improved. We have all seen cases of decompensation which would not respond to digitalis, even when given to the point of tolerance. Some of these cases improve under the use of tincture of strophanthus. This is especially true of mitral stenosis after paralysis of the auricles and the disappearance of the presystolic thrill and murmur. Intravenous injections of one-half to one milligram of strophanthin will sometimes cause a marked improvement in the symptoms of cardiac embarrassment. Digitalis depuratum or digipuratum is much less irritating to the stomach because the digitonin has been removed. It is given in doses of one-tenth of a gram two or three times a day and can be used over rather long periods of time without symptoms of digitalis poisoning.

For the oedema, active catharsis with elaterium, compound jalap powder, calomel or salts; or diuresis with theocin sodium acetate (five grains) three times a day for four or five doses or diuretin seem to be the most efficient drugs. It is well not to try too many drugs at the same time, as the already congested stomach needs all the rest possible. A few days of rest and catharsis, followed by four or five days of digitalis (strychnine and sedatives being given hypodermically) and after that the use of diuretics seems to be the more rational procedure.

Recovery from acute cardiac insufficiency is a very critical period and we are apt to allow exercise too soon. The patient and family should be given most detailed instructions as to the amount of exercise to be allowed. It is often very beneficial to continue with tincture of digitalis, in doses of five drops three times a day, or tincture of strophanthus, in doses of three drops three times a day for two or three weeks after compensation is established.

We see a large number of cases in which we assume a weakness of the myocardium. It usually occurs in overly nourished hard working business men who complain of breathlessness on exertion, palpitation, pain in the left chest and slight dizziness or faintness. The heart is usually enlarged, with muffled first sound and accentuated aortic second sound. These cases may be associated with a valvular lesion, or with arteriosclerosis and high blood pressure. They range in severity from cases with only a slight epigastric tenderness to those of cyanosis, dyspnoea and oedema. In the early stages the pulse is regular, but with increasing blood pressure and decreasing strengh of the heart muscle, there develop extra systoles and, if the pressure is very high and there is more damage to the heart, a pulsus alternans. In these cases of myocardial weakness we advise only very moderate exercise, for a heart which is being taxed nearly to its limit during a life of inactivity certainly is not going to be benefited by severe muscular movements. We attempt to modify the strict confined office life, advise more time out of doors, a simple diet, and a restriction in the use of alcohol and tobacco. We warn against sudden overstrain. With high blood pressure we give sodium nitrite, two grains three times a day. There is considerable difference of opinion in regard to the value of digitalis and strychnine in these cases. In our experience it is the myocardial cases complicating nephritis, arteriosclerosis, and emphysema that have attacks of angina pectoris.

Before mentioning the nervous heart, let us consider a very similar condition which arises from hyperthyroidism. The cases may be plain cases of exophthalmic goitre, or they may be rather obscure, showing a rapid pulse and various nervous symptoms. Thyroidectine and quinine-

hydrobromate, with absolute rest and an ice bag over the heart for a long period of time, will do good in some cases but by no means in all.

The purely nervous heart is sometimes very hard to differentiate from one with organic disease. The patient will have other signs of nervous instability, the increase in rate is liable to occur from psychic stimulation rather than from muscular exertion and is more transient. Palpitation occurs in both organic and nervous diseases. The irregularities of nervous hearts, as pointed out by Muller[1], are only exaggerations of the normal respiratory rhythm. The blood pressure and the peripheral vasomotor nerves are unstable, there is very little enlargement of the heart, and there is a very loud strong apex beat. When pain occurs in the precordium it may usually be influenced by suggestion, is not so severe and does not radiate like true angina. The attacks last longer (but do not wake the patient from sleep.) The absence of dyspnoea, cyanosis and oedema are of aid in differential diagnosis. To treat these cases we must first assure ourselves of the absence of hyperthyroidism, tuberculosis, or myocardial degeneration from other causes, and then advise graded exercises and, if necessary, a change of scene and occupation.

[1]F. Muller—Archives of Internal Medicine, 1908, 1 Pt.

Discussion on Papers of Drs. McCaskey, Jennings, and Whinery and Gordon

A. W. Hewlett, Ann Arbor: I have been very much interested in these papers. Studies of the circulation, during the past few years, have been devoted to functional, rather than to anatomical changes. This is certain to be a gain for the practitioner, for the reason that patients come to him, primarily, on account of disturbances of function, and treatment must often be directed against these rather than against the underlying anatomical changes. The two most important advancements have come from the determination of blood pressure and the study of the venous pulse. I can only agree with what has been said regarding the great importance of pressure determinations in general practice. Any doctor who fails to use a simple apparatus for determining the systolic pressure, is certain to allow a certain number of high pressure cases to pass unrecognized. The urine of a considerable number of those patients is practically negative, for the specific gravity is not low, and albumin and casts may occur only occasionally, or in very small amount. The large heart is often difficult to recognize in these patients.

Venous tracings enable us to analyse the cardiac irregularities. Of these, the form spoken of as auricular paralysis or absolute irregularity, is the most important. It is usually characterized clinically by the extreme and persistent irregularity. This has recently been shown to be due to auricular fibrillation, a fact that is of particular interest to Michigan men, for the reason that this explanation was first suggested a few years ago by Drs. Cushny and Edmunds at the university. It has recently been fully confirmed by the use of the electrocardiograph.

Clinically, digitalis does not raise the blood pressure to any appreciable extent. It is important to remember this, for physicians often hesitate to give it to patients with high blood pressure. If such a patient has broken compensation, digitalis often acts very satisfactorily, indeed, just as it would if the pressure were not high. The presence of cardiac irregularities modifies greatly the action of digitalis. Mackenzie has shown conclusively that so far as slowing the heart is concerned, digitalis acts far better in cases of auricular fibrillation with a fast and rapid heart rate than in any other form or heart action. It also acts best in young individuals with this irregularity. This confirms the older statement that it acts best in mitral valve disease, for these are often accompanied by fibrillation.

Doctor Wilson, Toronto: I have been much interested, likewise, in the papers that have been presented. I believe in the larger

use of blood pressure instruments by the general practitioner.

As far as the use of certain drugs is concerned, especially as to the use of adrenalin, I would be very chary of ten-minim doses over extended periods, at least intravenously. Personally, I would never give a dose as high as ten minims intravenously. I have never used higher than five minims. Concerning the results following the intramuscular method, I am extremely dubious; that is to say, we have made a number of experiments, and were not able to prove that we got results from the intramuscular injections, using ten-minim doses of adrenalin solution. There is no question at all in the value of adrenalin, and one can get splendid results in using five-minim doses.

However, I do believe most firmly in the use of caffein, the caffeine to be used in the form of a soluble salt, the citrate, or caffein and sodium benzoate. This drug can be used in large doses without any danger of poisoning the patient. Personally, I use a large dose, at least five or ten grains. I have made experiments on animals; and, in some cases that I have had, I remember one in particular, in which death seemed to be impending, and a dose of caffein saved him. Another case I had about a year ago. An old man went through an alcoholic bout, and when I reached him, I could not get a radial pulse. I used caffein, and also adrenalin, the pulse came back, and the man lived about another year.

As far as raising the blood pressure is concerned, I wish to state that on animals we do not discover an increase in blood pressure any more than we do clinically, unless using a large dose. And even with very large doses, sometimes we do not get increase in the blood pressure; so that the clinical results correspond with the findings of the laboratory.

H. M. RICH, Detroit: There are two forms of endocarditis which may be worth speaking of. One is in a case where the use of opium in small doses comes in. The picture, as one first sees it, is apt to be a very distressing one; a child in bed, story of the family having been up all night, the child tossing about, great pain, crying, the whole family standing about,—the picture is a very distressing one. At this point, an initial dose of opium, it seems to me, is the best thing to do. It is seldom necessary however, after this initial dose, to give opium, provided you follow it up promptly with a careful and constant use of the ice bag. One, of course, must hold himself ready to give a second dose of opium, if not able to control the pain. There is a stage later on, however, if the case is at all severe, in which you will need to give opium, and that is when the heart begins to hypertrophy. In small children, the degree to which the hypertrophy of the heart will go is very much greater than in adults, and it is very astonishing to what extent the heart sometimes will go. In some cases of this hypertrophy, there is great pressure exerted, at times, upon the bony walls of the chest; and you will not infrequently be able to see, by looking across the chest of the child, very distinctly, the bulging due to the pressure of the heart. During this time, when there is great pressure upon the bony walls of the chest, there will be generally extreme pain. I have been surprised to find the amount of opium which small children can take and do very well at this stage of the disease. You will have to give opium, and give it frequently, to quiet the child.

The second type is the case after the process has subsided. During the last summer I have had several opportunities to see cases where this phase of the case has been neglected. The child which has had a severe endocarditis, should, in very few instances, undertake the usual exertion of a child within a year. It should be kept in bed for a long period of time, and very slight exercise should be allowed. Such cases get back to the normal very seldom in less than a year, in my experience. This failure to explain the long continued period of rest necessary is a failure which I have most often observed.

R. E. MERCER, Detroit: If you look over your case histories, you will find, I think, in good share of the cases of heart troubles that you took records of, that there is no history of any endocardial trouble, or no history of any thing except some little weakness that has been nearly forgotten; often in young girls, sometimes in young boys, you will get a history of a little "malaria," a "little" of this or a "little" of the other thing. If you examine the cases, you will sometimes find a slight rise in blood pressure, with nothing to account for it. The point I want to make is that a good share of these cases show no particular symptoms until after the valvular trouble, or the heart weakness, is well established. Often it will be some years after before the endocarditis, or the result of the endocarditis, is discovered. The

old adage that "An ounce of prevention is worth a pound of cure," is the thing that we want to remember; and we also want to remember that our endocardial cases do not show, in a good big percentage, the symptoms that Doctor Rich has just mentioned. We want to be on the watch; particularly, in the cases of young persons, where there are some symptoms of weakness that we often think nothing of, we want to make careful and repeated examinations of the heart, and we will find, a little later, a slight developing rub, perhaps, or just a little bit of a blow; and later on, if we do not keep the case in bed, we will find well developed endocardial trouble. So that if we watch these cases, we can prevent the need of a great deal of the treatment that we have been talking about today.

G. W. McCaskey, Fort Wayne, Indiana: Mr. Chairman and the Society. So many extremely interesting and practical questions have been raised during the course of this discussion, which is, as usual, the best part of the program, that one scarcely knows which one to take up for brief reference. Two or three, however, have impressed me as especially important, to which I will direct my attention. (I would like first to say a word in regard to the digitalis problem. We all recognize the indispensable value of digitalis. What I want to refer to particularly, is its effect upon raising the blood pressure, more especially in high blood pressure cases, and especially in those cases in which a little additional obstruction in the peripheral circulation will prove,—or may prove—to be a serious matter to an already weakened myocardium. It has been claimed by many, upon ordinary clinical grounds, that digitalis, in ordinary dosage, does not materially raise blood pressure.) Blood pressure, as we all know, is subject to rapid variations under normal conditions, and it is especially true in many of these clinical cases. A variation of ten, twenty, or more millimeters of mercury is not very unusual within a few hours from a very transient cause. Slight exercise will raise the pressure very considerably in some cases; a little time in the recumbent position will lower it. Now, I was particularly impressed by what Doctor Rich said in regard to his animal experimentation, that clinical doses of digitalis did not raise blood pressure. Larger doses raised the blood pressure. It suggested itself to me that this is why we have not heretofore been able to satisfactorily and regularly determine increase of blood pressure from ordinary clinical doses. I am still unconvinced that the tendency of digitalis is not to raise blood pressure. I have been unconvinced all the time, during recent years, and in those cases particularly where I am afraid of an increased peripheral resistance, I combine vasodilators to counteract the vaso-constrictor effect which I assume to be present in the use of digitalis, (which many do not believe exists) and which the observations of Doctor Rich have given me fresh reasons for believing do exist, though not clinically demonstrable, at least, to a degree markedly beyond the limits of physological variance.

In regard to the absence of leucocytosis in many of these cases of streptococcal or staphylococcal infections, and which Doctor Hewlett referred to in his discussion, it depends obviously upon the chemotactic response of the blood, or the kind of toxins acting upon the blood. If the immune processes are too weak to arouse the leukocytic defenses, then you will not get a high leukocyte count at all; you may get just the reverse. You may, in the terminal stages of the streptococcal or staphylococcal infections, for that matter, instead of high leukocyte count, actually get a very low one. This is, I think, of not infrequent occurrence. I believe that these infections cut a very large figure—we all know that they do, there isn't any question about it—in the production of the lesions of acute heart disease. I would like to dissent a little from the remark made by one gentleman, that patients cannot recover, —or practically, I think that is what he said, from the endocarditis of this type, —malignant endocarditis. We have been in the habit of considering these cases as practically incurable, attempting, so far as possible, to minimize the damage done to the heart, and waiting for an ultimate fatal termination. Vaccine, in my opinion, has given us a new weapon in these cases. You remember that Wright, in his early studies, assumed that vaccine therapy was not applicable to general infections. Later on, he reversed this position, and now advises the use of these vaccines in such cases. I would like to refer to a single case as an illustration. A girl, some eight or ten years of age, had a slight injury upon the foot, with abscess formation, which healed, and was apparently forgotten. In a short time she began to be ill; she had fever, she had

heart perturbations, and after she had been in bed for some time, I was called to see her, and found one of the most extreme pictures of myocardial weakness that I had ever seen. She could not be raised to the sitting posture without running the pulse up from thirty to fifty beats a minute. A blood culture showed the staphylococci. I told them the case was a desperate one, but that if they would bring her up to the hospital, I would see what I could do. She was brought up. I had an autogenous vaccine made from the blood, and the patient was immediately placed under treatment. The effect appeared too soon. I said to my assistant, "It seems incredible that a vaccine could produce that effect in that way in forty-eight hours." But I have seen results from other vaccine treatment since which lead me to believe that the results were due to it. Well, I cannot take time to dwell upon this case, further than to say that the patient remained in the hospital under treatment for three months. At the end of one month she was able to sit up without much more than the physiological change in the pulse rate, and at the end of three months, she was discharged, in excellent condition, and this improvement went on to practical recovery. I suppose, of course, the heart remained permanently damaged to some extent, though the patient was not seen again.

DOCTOR..... I would like to say just a word relative to malignant endocarditis. My experience has not been so great as Doctor McCaskey's. It is true that I did not use an autogenous vaccine in the three cases I have seen. I used a polyvalent serum in both the staphylococcus infections, and a vaccine in the streptococcus infection, without any improvement in the course of the disease. My results might have been different if I had taken the germ from the patient himself and had a vaccine prepared; but certainly we shall be encouraged in the treatment of these diseases if we can look forward to the gain that is going to be made, or if the vaccine treatment will prove beneficial as a form of treatment. Other forms of treatment, I think, are practically hopeless.

Just a word in regard to the use of digitalis in myocardial troubles in people along in years. With oftentimes an increase of blood pressure, sometimes not very much increase of blood pressure, it has been my experience that digitalis, in small doses, does help a patient out. There is a remarkable improvement in some instances. Their dyspnoea leaves, their pulselessness is overcome, and their condition is improved. A five-drop dose twice a week, I think, is of value, with attention to the pulse, etc,

In regard to the developed endocardial troubles in children, I am glad this matter was spoken of, and yet, I think we should be a little bit cautious in making a diagnosis of valvular disease in a child. We hear murmurs which, if we follow them up, are not due to a true valvular disease, and if we allow ourselves to make a diagnosis of endocarditis in a young child, and tell the parents about it, why, very often we have to retract that latter on, because the murmur will disappear, the condition of the child will change, whatever produced the murmur is gone, and the child's heart is found, later on, to be in a normal condition.

HARRIET L. HAWKINS, Detroit: I would like to add a word in regard to the treatment of these troubles by the vaccine therapy. I saw a case which was pronounced absolutely a hopeless case of myocarditis. The patient was very sick, and it seemed as though she had but a short time to live. The ice bag was applied, and small doses of digitalis given, with very small results. A short time later the same patient developed a trouble in the middle ear, and the vaccines were given. We did not stop for an autogenous vaccine, but gave the stock vaccine, and the results on the heart were most remarkable. It was not given for the heart, but for the trouble in the middle ear, but the effect on the heart was most encouraging. She is now up and around, she has to guard her heart, of course, but there was no digitalis used in the case at this time, and has not been now for over two years; but the vaccine treatment was productive of the most marked results.

ACUTE ANTERIOR POLIOMYELITIS.*

BURT F. GREEN, M. D.
Hillsdale.

The first authentic description of an epidemic of acute anterior poliomyelitis is credited to Bergenholz, a Swede, in 1881. The first outbreak in the United States, in any considerable degree, was in 1894, when Caverly of Rutland, Vt., described an epidemic of 132 cases. In the following eleven years there were reported in the United States, nine small epidemics, with a total of 157 cases, or an average of about 15 cases in a year. In 1905-6 no epidemics were reported. In 1907 the most extensive epidemic ever known visited New York City and vicinity, with an estimated total of 2500 cases. In the same year several other epidemics occurred, mainly in the eastern part of the country. In 1909 large epidemics were reported in Massachusetts, Minnesota, Kansas, Nebraska and Cuba, with a total of 2343 cases. In 1910 the disease assumed a much more threatening aspect, a much larger number of cases than ever before occurring. In the United States 8700 cases were officially reported.

The disease has unquestionably existed in this country for many years, and, at present, we seem to be facing conditions favorable to its increase. In Europe there has been noticed a tendency to spread since 1905, when the great Scandinavian epidemic occurred. There has been a disproportionate increase in this country, five -sevenths of 8000 cases reported from all over the world for the five years ending in 1909, having occurred in the United States.[1] It is, of course, well-known that the number of cases officially reported is a poor criterion by which to judge the total number that has occurred. For example, official reports credit Michigan, in 1910, with 79 cases, while investigation by the writer and others shows a total of at least 72 cases in Hillsdale county alone, not including those of the abortive type.

This wide distribution is fortunately not attended by a regular and uniform prevalence in all communities. Considerable territory seems to have escaped its ravages, although few states have remained entirely free from invasion. The mortality in the United States has been the average noted in European epidemics and has approached ten per cent. The American epidemics are in agreement with the earlier European epidemics in all essential respects, and differ from them only by reason of their wide distribution and total number of cases. The variation is to be explained, probably, not by supposing conditions for the spread of the disease in the United States are more favorable than in Europe, but because of the greater extent of territory embraced under one government.[2] Also, as Flexner shows, the United States may have suffered disproportionately, and more severely, than European countries because of the failure, in many communities, to make prompt recognition of the nature of the

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

1. Lovett: Am. Jour, Dis. of Children, Aug., 1911.
2. Flexner: Control Epidemic Poliomyelitis, Am. Jour. Dis. of Child., Aug., 1911.

malady, and because of lack of authoritative sanitary regulations to delimit, quickly, the spread of the disease through employment of quarantine. In some communities the disease was mistaken for periods of many months for epidemic meningitis.

It is now believed that poliomyelitis is an infection due to an ultra-microscopical organism, and that inoculation may take place through the respiratory and digestive systems as well as in other ways. The virus affects particularly the vessels of the meninges, leading to marked hyperemia, infiltration, and to secondary involvement of adjacent nerve cells and fibres. The infective agent may extend to any part of the cerebrospinal system, and may affect both gray and white matter. The disease is self limited, being terminated by the production within the organism of antibodies to the specific virus. It may last from a few days to several weeks, ending fatally or in complete recovery, or it may be followed by paralysis of one or more muscles, dependent on the site and extent of the inflammatory process. The early paralysis is always of greater extent than the residual palsy. The improvement in the paralysis is due to the fact that many of the ganglion cells, which at the height of the disease are merely compressed, or only partially involved, recover their functions, wholly or in part, and that the nerve supply of a muscle never arises wholly from a single segment of the cord.[3]

The occurrence of the disease in epidemic form raises the question as to whether it is contagious. Much evidence has been presented in favor of this theory. It is asserted that the disease is directly transmissible from a patient having it to another with whom he comes in contact; that it may be carried by a third person from the patient to a person who subsequently becomes sick; and that in many cases in which the direct transmission has not been recognized, it has really occurred through one who has been designated as a carrier, who may be a person who has suffered a slight or abortive attack of the disease which has not been recognized. However, it must not be forgotten that a very large number of people who come in contact with the disease do not contract it. This may be due to some immunity to the disease which is not, at present, understood, or to the slightly contagious character of the malady.[4] In some epidemics it has seemed that the infection was carried by dust. A notable contribution to the clearing up of this question was recently made by Flexner and his assistants in the Rockefeller Institute, who succeeded in producing the disease in monkeys by the intra-cerebral injection of an emulsion, made from the bodies of common house flies, which had been fed on portions of spinal cord obtained from a poliomyelitic monkey. While the transmission of contagion in this way seems probable, it is difficult, at the present time, to prove the statement definitely. Insect contamination with the virus would serve to clear away any present apparent discrepancies in the epidemiology of the disease. The spread of epidemic poliomyelitis is not promiscuous, but along the routes of greatest travel. "Therefore, insects that seek human habitations and routes of travel, that possess the power to imgrate over considerable territory, that affect all classes of society, that abound during the period of greatest prevalence of the disease, and that do not wholly disappear at any season, should be the first to come under suspicion. Many, if not all, these

3. Lovett: Spinal Paralysis—Spinal Form. Am. Jour. Dis. of C , Aug., 1911.

4. Ant. Poliomyelitis, Jour. Am. Med. Assn., P. 741, Aug. 26, 1911.

conditions are fulfilled by the common house fly."[2]

Manwaring, in a recent article,[5] contends that poliomyelitis is insect borne, resembling typhoid and diarrheas in this respect; that it has its seasonal prevalence in the warm months, June to September, because it is insect borne. He presents charts taken from the bulletins of the Michigan State Board of Health for 1910, showing the similarity of poliomyelitis to diseases known to be spread by the house fly and other insects, and its dissimilarity to the diseases known to be disseminated by the entrance of infectious material into the respiratory tract. He doubts very strongly that those investigators who believe that it is an inhalation infection are right.

The disease is by no means uniform in its mode of onset. There are many varieties described, depending upon the part of the nervous system which happens to be attacked by the poison. Thus, if the infection attacks the brain, cerebral symptoms predominate; if it attacks the cerebral axis, including the pons and medulla, symptoms of the nature of bulbar paralysis appear early, and cranial nerve symptoms are observed. If the spinal cord only is affected, as is most common, it may be in an upper or lower segment, or a diffuse process may affect the entire nervous system. Hence the variety of symptoms possible is very great. There are also great differences in the severity of onset. There may be a slight affection which manifests itself by a moderate fever and a mere general enfeeblement and temporary weakness of certain muscles—the so-called abortive type. From this slight affection we may have every variety of invasion up to the point of total paralysis of both arms, both legs, and facial muscles, with death occurring on the second or third day from respiratory paralysis. The earliest symptoms nearly always resemble those of any other acute infection. There is a sudden onset with restlessness, drowsiness, fever, and sometimes profuse, clammy sweating. Frequently there are sore throat and digestive disturbances. Tenderness of spine, body or limbs is a suspicious early sign. There may be retraction of the head, headache, rigidity of the neck, and general hyperesthesia, Pain is a prominent symptom in many instances. It is hard to understand how the old dictum that there is no pain in infantile paralysis ever originated. Pain is sometimes in the joints, but more often along the nerve trunks, or is indefinite in distribution. It is usually most marked in the paralyzed parts. Pain and tenderness at times are marked enough to cause paralysis to be entirely overlooked and a diagnosis of rheumatism or scurvy made.[6]

The paralysis is sudden and may occur any time after the first few hours. The limb affected falls limp and shows a lower temperature than its fellow. The reflexes are unequal, or abolished. A partial Kernig's sign may be present. Usually there is no abnormality in sensation. Examination of the blood so far has not shown anything of value in diagnosis. Experimental studies by Flexner and Lewis show that in the pre-paralytic stages the cerebrospinal fluid exhibits definite evidence of the round-celled infiltration of the meninges. Within forty-eight hours of inoculation, the fluid is found to be under increased pressure; a little later it contains an increased number of lymphocytes, which gives it an opalescent appearance. Its coagulability is also greatly increased. These changes, however, have disappeared by the time definite paralysis has occurred.

Koplik[7] points out that there is often

5. Manwaring: Jour. Mich. State Med. Soc., July, 1911.

6. Morse: Am. Jour. Dis. Children, Aug., 1911

7. Koplik: Cerebral forms of poliomyelitis, Am. Jour Med. Sciences, June, 1911.

great difficulty in differentiating certain cerebral forms of poliomyelitis, accompanied by nuclear palsies[6] from forms of meningitis, either of the acute suppurative (meningococcic) variety, or the tuberculous forms of the disease. In fact, it is only by most careful observation that we may differentiate the two, and then only with the possibility of some doubt. In polioencephalitis there is a short preliminary period in which the patient, having had high fever, continues to be about. There is also an increasing sopor which extends over days. This is quite unlike the onset of cerebrospinal meningitis. Here, however, the dissimilarity ends. Another set of cases is still more perplexing, since they closely simulate the tuberculous forms of meningitis. There is one salient point of difference, however. In cases of polioencephalitis the onset is sudden and the children have previously been in good health. In tuberculous meningitis the onset is gradual, cases of sudden onset being extremely rare.

Flexner[2] believes that treatment is less hopeless than is commonly supposed, since much of the supposed damage inflicted on the nervous system at the onset, is remediable.

"For the brunt of the disease falls not on nervous tissue, but on the meninges where it can in turn be opposed by therapeutic measures; and the severe nervous lesions are not, in the most instances, absolute, but they are merely relative and often probably merely functional in nature, since as many as 25 per cent of the paralyzed may make complete recovery, and there is restored to a far larger percentage, by the usual process of delayed resolution, a considerable degree of power in the use of muscles once severely paralyzed."

Treatment has been handicapped by the fact that few cases can be diagnosed before paralysis develops. The endeavor to produce a satisfactory serum has not as yet met with success. The ideal serum, when obtained, will have to be employed in the very beginning of the disease, before any lesions of the central nervous system have occurred, a condition which will make it necessary to acquire more exact methods of diagnosis in the prodromal period. The sera are relatively weak in immunity principles, and hence do not offer any great hope of beneficial use in any event. An effort, therefore, has been made to solve the problem through the use of drugs. The meninges at present are considered the location of the primary lesion of the disease. Hence treatment must be directed to the control of the primary meningeal lesions that in turn are caused by the virus present in the meninges and in the cerebro-spinal fluid. What is required is an antiseptic drug having a special power to destroy this virus, and of very low toxicity, that can be made to act on the meninges and in the subdural space. In hexamethylenamin (urotropin) we have a drug which fulfills certain of these conditions. Administered to monkeys before or at the time of inoculation, and repeated daily thereafter, it is capable in some instances, of preventing paralysis and, in others, of materially lengthening the incubation period. (Flexner and Clark). Although its powers are limited, yet its chemical composition is such as to permit of the addition of other chemical groups to the original molecule by virtue of which its antiseptic powers are intensified. It is not improbable that some advance will be made along this line of investigation.[2] The number of cases in which good results are reported from the use of hexamethylenamin, is constantly growing.

Complete rest is the first and most essential factor in treatment. The patient should be isolated. An abundance of fresh air should be supplied. The bowels should be kept open and the diet should be light and nutritious as in other febrile

conditions. Occasionally, sedatives, as codeine or morphine, may be required. Hexamethylenamin should be given early and continued as routine treatment. It should also be given in suspected cases.

After the fever subsides the treatment resolves itself into limiting, as much as possible, the final paralysis. Efforts must be made to preserve the function and nutrition of muscles and prevent deformities. The normal balance of muscles about joints should be maintained, and over stretching of paralyzed muscles by contraction of unaffected opposing muscles should be prevented. The recumbent position should be kept for a long time, for, as Judson[8] points out, the large predominance of the residual paralysis in the lower, as compared to the upper extremity, is due, in part, to the attempt of the patient to sustain his weight on the impaired muscles in the legs and feet. No corresponding action is demanded of the arms and hands. He suggests, in many cases, to extend the recumbent position so long as eighteen months.

For stimulation of nerve and muscle electricity may be used, the faradic current when possible, and when response to this is lost, the galvanic current. The application of the various forms of heat will be found useful for the improvement of the circulation and the prevention of the comparatively low temperature of the paralyzed muscles. Massage should always be employed to give blood supply and furnish exercise for the muscles. More important than any of these measures, however, according to Strunsky[9], is muscle training. Strunsky insists that the dominant element of success in the restoration of function, is suggestion, in securing the cooperation of the patient in the effort to make the desired movement, and that massage, passive motion and electricity, when helpful, are so because they are means of obtaining this end. He explains that well directed massage may be the instrument that arouses the will power to concentrate to the utmost during muscular contraction and leads to the building up of mental and motor brain cells.

Authorities agree that acute anterior poliomyelitis should be made universally reportable, and that all cases should be strictly quarantined, the sputum, urine and feces being disinfected and the same rigid precautions adopted as in scarlet fever. The quarantine should last at least four weeks and children from infected families should not be allowed to attend school till the quarantine is abandoned. Particular care should be taken to disinfect the nasal and pharyngeal passages by means of a spray of hydrogen peroxide. Also, the use of hydrogen peroxide, or other suitable disinfecting solution, as a prophylactic measure, by those living in the neighborhood of infection, should be encouraged. Last, but not least, a vigorous campaign should be waged against the common house fly.

In Hillsdale County[10] the epidemic of 1910 apparently began the last week in July and ceased early in November. There were, however, two cases reported previous to the date mentioned, one occurring May 1st and one May 25th, both in the same neighborhood, about three miles apart. In the latter instance there had been a death in the family the year before from what was then diagnosed as cerebrospinal meningitis, but which the attending Phycian now believes to have been poliomyelitis. There were no other cases reported until July 24th, when one occurred in Hillsdale city. After this the disease

8. Judson: Denver Med. Times, Oct., 1907.
9. Strunsky: Am. Jour. Dis. Children I, 266-1911.

10. For the following data I am indebted to Dr. W. H. Sawyer of Hillsdale, who made a careful study of the epidemic, writing to every physician in the county for facts concerning their cases.

spread rapidly throughout the city and county. In July there were three cases; in August, 30; in September, 26; in October, 9; in November, 2. The last case reported was November 10th. So far as it has been possible to judge from the reports obtained, there were seventy-two cases in the Hillsdale county epidemic of 1910, with twelve deaths. Of these fatal cases, four were attributed to polioencephalitis. In eight cases there was paralysis of the respiratory muscles. Ten patients with bulbar symptoms recovered. The spinal type of the disease, with more or less permanent paralysis of one or more extremities, occurred in 50 cases.

The ages of those attacked varied from 2 to 70 years. Classified according to age there were:

Less than five years, 12 cases.

Between five and ten years, 22 cases.

Between ten and fifteen years, 12 cases

Between fifteen and twenty-five years, 13 cases.

Between twenty-five and forty years, 10 cases.

At age of forty-three, 1 case.

At age of fifty, 1 case.

At age of seventy, 1 case.

Only those cases in which there were more or less persistent symptoms of paralysis are reported. The abortive type, which undoubtedly occurred, was probably quite generally unrecognized. There were a few instances in which other members of the family, in which the reported cases occurred, were sick at the same time with what were probably the prodromal symptoms of the disease. In a large per cent of the families in which the disease occurred there were other children, but in only four families were there second cases developing paralysis. In two of these the two children were attacked the same day. In another, there was an interval of twelve days, and in the other nine weeks. In the fatal cases, death occurred in a larger number within three days from the onset, though in one case it was delayed until the 14th day. So far this year Hillsdale county has been more fortunate, only one case having been reported. This was a woman of thrity-two who suffered a polioencephalitis and, at present, is making a slow convalescence.

1912 DUES ARE NOW DUE AND SHOULD BE PAID BEFORE APRIL FIFTEENTH

POLIOMYELITIS*

T. M. KOON, M. D.
Grand Rapids, Mich.

After deciding to write a paper for the Society upon epidemic poliomyelitis, I learned that Dr. Green was preparing a paper upon the same topic, therefore, in order to avoid repetition, which would bore the Society, it seemed to me that a report of the cases which occured in Grand Rapids during the past summer, would fit in with Dr. Green's paper.

During July and August there was an outbreak of the disease in Grand Rapids. In view of the fact that this has been placed among the reportable diseases by the Michigan State Board of Health, it seems that the discussion of infantile paralysis by this Soiety is timely. In company with Dr. Slemmons, the Health Officer, I visited the eight cases occurring in Grand Rapids. There was nothing significant in the early course of the disease to distinguish it, and in none of the cases was there the slighest suspicion of the nature of the disease until the paralysis set in.

Case 1. Beatrice T., nursing baby, aged 9 months, was taken sick July 10. During that day she cried considerable and did not care for nurse. Bowel movements were white and slimy. There was fever, vomiting, and pain in the abdomen. On July 13 there was complete motor paralysis of the left arm and both lower limbs. Sensation was not impaired. The reflexes were abolished. There were no brain symptoms. We saw the case about three weeks from the onset. At that time there was slight motion in the hand and the toes. So far as known the child had not been exposed to the disease nor had it been subjected to any physical exposure. It had never had any of the infectious diseases, and, up to the present sickness, had been perfectly well. There were two other children in the family.

Case 2. Helen K., aged two and one-halt years. Taken sick July 24. She complained of stomachache and headache. There was high fever. On July 29 there was complete loss of motion of the right arm and right leg. Sensation was unimpaired. The reflexes were abolished. The mind was clear. So far as known the child had not been exposed to the disease. She had been perfectly healthy up to the present sickness, and had not had any of the infectious diseases. She died suddenly, Aug. 2. There were three other children in the family.

Case 3. Louis T., aged 2 years, was taken sick July 26. He was irritable, had high fever and diarrhea. July 29 complete motor paralysis of the left arm developed. The reflexes were abolished, but sensation was not impaired. The mind was clear. I saw the case three weeks after the onset of the disease and there was complete loss of use of the arm. The child had not been exposed to the disease and there was no physical exposure. He had always been well and had never had any of the infectious diseases except varicella. There were three other children in the family.

Case 4. Orva T., aged 8 years, taken sick July 26. Complained of headache and stiff neck. There was high fever. On the following day there was complete motor paralysis of both arms. Sensation was not impaired. The reflexes were abolished. The mind was perfectly clear. The child died suddenly, July 28, on the 3rd day of the illness. She had been healthy up to the present time. So far as known she had not been exposed to the disease. She had chicken pox, when 3 years of age and measles when 6. There were two other children in the family.

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

Case 5. Richard B., aged 7 years, taken sick July 31. He complained of soreness in the right leg, and later, general soreness and severe headache. There was fever and nausea. On August 2 there was complete motor paralysis of the right leg. Sensation was not impaired. The mind was clear and the reflexes were abolished. The boy had not been exposed to the disease, so far as known. He had been healthy up to the present illness. He had scarlet fever when four years of age and measles in 1910. There were two other children in the family.

Case 6. Edward V., aged 19 months, taken sick August 13. There was high fever and general soreness throughout the body. There were no gastro-intestinal disturbances. August 14 there was complete motor paralysis of the right leg. Sensation was not impaired. The reflexes were abolished. The mind was clear. There was no known exposure to the disease and no physical exposure. The child had always been well. It had no infectious disease save measles, Jan. 5, 1911. The child was seen by me two weeks after being taken sick and there was no improvement in the paralysis. There were two other children in the family.

Case 7. Marguerite H., aged two years, eleven months taken sick August 14. Complained of severe headache. There was high fever, vomiting and diarrhea. On that day it was noticed that the child did not use its limbs properly, and at the end of 48 hours there was complete motor paralysis of both lower limbs, with the exception of the right toes. Sensation was not impaired, the mind was clear, and the reflexes were abolished. The child had not been exposed to the disease so far as known. She had never had any of the infectious diseases, and, up to the present illness, had been healthy. There were two other children in the family.

Case 8. Mrs. S., aged 26, taken sick August 14, Complained of pain in the back of neck and in back. There was high fever and vomiting. On the 19th there was severe pain in the lumbar region. On August 20, there was paralysis of the bladder. On the 21st there was weakness in the lower limbs, and on the 22nd there was complete motor paralysis of both lower limbs, but sensation was not impaired. The reflexes were abolished. The mind was clear. So far as known she had not been exposed to the disease. On August 12, two days before the sickness set in, she was thoroughly chilled while in bathing. She had not been in good health for the past five years. This case occurred in a hospital ward.

All of the cases were seen from three to five weeks after being sick and there was practically no change in the paralysis.

In all of the cases except one, the paralysis came on within 48 hours. There was complete motor paralysis of the parts affected, but sensation was not impaired. The reflexes were abolished in all cases. The brain was not affected.

It was impossible to trace exposure either direct or indirect in any of the cases. The disease occurred suddenly in perfectly healthy children, and did not follow any of the infectious diseases, nor any severe physical exposure, except in one case. In every household there were other children. In view of the fact that infantile paralysis was not suspected until the paralysis set in, there was a large general exposure, but not a single secondary case occurred in this outbreak.

The Board of health maintained a strict quarrantine in all cases for 4 weeks. Not only was the patient kept isolated from the public, but the other members of the household were prohibited from going back and forth. All premises were disinfected after four weeks.

Discussion of Papers of Drs. Green and Koon

H. M. Rich, Detroit: It is not only our pleasure, but our duty, to discuss these subjects at this meeting of the State Medical Society, and the doctors are to be congratulated on their admirable papers. Infantile paralysis has become a very serious disease in this state, as well as at large. A few years ago we were accustomed to learn of it through our medical Journals, but, since then, it has become almost epidemic, and is leaving its gruesome trail of death and deformity behind it. A few years ago we were optimistic of the cure. At the present time one must be fearful of the appearance of the paralysis. Whenever the

febrile symptoms appear the case should be isolated and perhaps quarantined. The physical results of this disease are so severe, so long drawn-out, and so painful, that the profession should, in my opinion, take the greatest precautions to stop it, and exert their utmost endeavors to ameliorate it wherever possible.

There are two or three points that I would like to criticise, which were brought out in the papers. One was that of the importance of quarantine so that other physicians may be looking for it. Doctor Green did not mention the fact that the name has been changed, although he used the name "polioencephalitis." Infantile paralysis is now restricted to the anterior horn, and "anterior poliomyelitis" is not a proper term. I believe it is Doctor Flexner who has suggested "polioencephalitis;" several other names have been suggested, and the term "epidemic paralysis," he said, should be used as the common term for this disease. That is merely an academic point. We must not overlook the fact that adults may have the disease.

I have in my hand a photograph of a somewhat recent case which I thought, perhaps, would interest some members of the section. A child about two years old was brought into the Children's Hospital, January 10, 1910. It illustrates some points in the disease. In the first place, he was practically unconscious. We were not able to obtain a history; and the diagnosis was made of probable tubercular meningitis. As we succeed, however, in obtaining tubercle bacilli in every case, and did not obtain it in this case, the diagnosis was held in suspense, and it proved ultimately to be a case of polioencephalitis, of a progressive type. The paralysis continued to exist for four weeks after the child was brought to the hospital. As the paralysis went upward, there obtained a paralysis of the abdominal muscles on the left side, the rectus, etc. This was shown by the fact that the child cried when the abdominal muscles were touched, and this photograph was taken while the child was crying, showing the condition of the abdomen on the left side. This child is now under treatment in the observation department of the Children's Hospital. The child remained practically unconscious for some time. It was particularly a very severe case, and with this progressive extreme type of paralysis, we expected every day that death would overtake it. The child continues in a very bad state.

F. C. KIDNER, Detroit: I had the privilege of seeing the case of paralysis of which a photograph has just been shown. The child left the hospital just after the acute attack and was kept away for over a year. He returned eight months ago, with contractures of both Achilles tendons and of the right hamstrings. On the left there was, apparently, complete flaccid paralysis of all muscles. Tenotomies to overcome the contractures, massage, passive motion and attempts at active motion, faithfully carried out for six months, brought about very marked improvement. At the end of that time, some 'power had returned in the anterior tibial muscles on both sides and in the quadriceps. We were able to fit braces, which made it possible for the child to walk with the father's assistance. I expect still further improvement. The child will never be able to get about freely, but he will have sufficient powers of locomotion to make him a useful citizen instead of a hopeless cripple.

It is worth while to emphasize the necessity of protecting, from the first, the paralyzed muscles, by proper splints in order to prevent contractures. For we never know how many active fibres may be left in apparently completely paralyzed muscle. I have seen, in neglected cases, return of power after several years.

DOCTOR WILLIAMS:* There was a brief mention made by Doctor Green of a certain form which merits a very close study. He called attention to a certain case that was characterized by pain and tenderness, and the paralytic feature was so little in evidence that cases of that kind have been looked upon as cases of rheumatism. If these are true cases of infantile paralysis, it is highly important that their existence be emphasized.

THE CHAIRMAN: There is one point that I would like to ask Doctor Green. Many have the idea that from the old name of "infantile paralysis," the disease is limited to childhood. I would like to have Doctor Green explain something in regard to the ages at which this condition can occur.

BURT F. GREEN, Hillsdale, Closing: In regard to the use of the name, it does not seem that any name has been suggested yet which is entirely free from objection. I used the name which is suggested by the Michigan State Board of Health as the least objectionable

*Address unknown. (Editor.)

of all. I think there are a good many points that really ought to be, or still remain to be cleared up, but I am impressed with the theory that the disease is insect-born, and that the time will come that the house fly will be blamed for disseminating the disease. I think the point should be emphasized that the disease should be reportable. This is not done in all the states. Michigan has only recently placed the disease among the reportable ones. The time, undoubtedly, will come when it will be done by all the states. I think it is evident that the strictest quarantine should be observed.

In the matter of diagnosis, it will, undoubtedly, remain true for sometime that the sporadic cases will not be recognized; and it will be a matter of some difficulty to recognize all cases even in the presence of an epidemic. I think it will be a safe rule to follow that all febrile cases, in the presence of an epidemic, should be treated with the idea of the possibility of poliomyelitis.

In regard to the form which resembles rheumatism, I will say that my observation leads me to believe that such a classification is correct, because, in my own experience, I saw two cases which resembled rheumatism very strongly.

As to the question asked by the Chairman in regard to the ages, I have a table which gives the ages, and I will read that table again This is a total of seventy-two cases reported.

Under 5 years, twelve cases.
Between 5 and 10 years, twenty-two cases.
Between 10 and 15, twelve cases.
Between 15 and 25, thirteen cases.
Between 25 and 40, ten cases.
At the age of 43, one case.
At the age of 50, one case.
At the age of 70, one case.

SURGICAL SUGGESTIONS

(American Journal of Surgery)

In trachelorrhaphy care must be taken not to close the cervical canal at any point.

When tuberculous involvement of the Fallopain tubes is evident to the naked eye, panhysterectomy should be performed.

Vaginal hysterectomy is more dangerous than abdominal hysterectomy when the uterus is adherent.

Simple perforation of the uterus during a curettage in an aseptic field requires no further treatment than a packing of gauze in the uterus.

A chronic suppuration in the middle ear may be due entirely to an adhesion near the floor and internal wall, forming a pocket in which pus may lodge.

Irrigating the throat with ice water from a fountain syringe willl frequently relieve congestion and give great comfort in cases of acute follicular tonsilitis.

The "safe-triangle" or "interpleural space," for exposing the heart, is at the left of the sterum behind the three lower costo-cartilaginous attachments.

In case of primary hemorrhage, cut vessels which are not bleeding need not be ligated, provided the patient can be watched. When the vessel can not be tied in the wound, ligation in continuity is permissible.

The treatment of varicose veins is not completed until the surgeon has discovered the constitutional causative factor and advised its elimination.

In removing extensive varicose veins, the surgeon should bear in mind that two operators can accomplish twice as much as one.

Better than temporary ligature of a large vessel is the application of a soft clamp which cannot damage its wall. In the absence of such a clamp an assistant may cause occlusive angulation by making gentle traction upon a ligature passed under the vessel.

After the ligation or occlusion of large ueins, the important means essential to the re-estaklishment of the collateral circulation is the preservation in its best possible vigor of the arterial circulation.

EXTERNAL PELVIMETRY WITH SPECIAL REFERENCE TO METHOD OF MEASURING THE OUTLET*

HOWARD H. CUMMINGS, M. D.
Ann Arbor, Mich.

The present status of pelvimetry is peculiar. In the obstetrical department of every first-class medical school, pelvimetry is taught, and the men directly connected with such institutions make use of pelvimetry. The recent graduate, early in his career, usually discards his knowledge of pelvimetry, and the majority of older practitioners have long since ceased to measure the pelves of pregnant women. What is the explanation of this condition? If you ask the general practitioner why he does not use a pelvimeter, usually he will tell you that nature delivers most children, and if not, he can apply forceps. It is true that the majority of children are delivered spontaneously, whether the pelvis be of normal size or somewhat contracted, but this does not excuse the physician from measuring the pelvis and knowing the actual condition. What would the profession think of a physician who never made physical examinations or tried to diagnose the true condition because he maintained that many diseases were self-limiting and would reach a cure in time? Authors of textbooks in obstetrics have been blamed for the present condition of pelvimetry. The fault is stated in the following quotation: "Many writers delight in giving the length of pelvic diameters in the living in millimeters, some even in fractions of millimeters. This is hypocrisy—to say the least—and such writers are partly responsible for the deplorable fact that pelvimetry is not as generally used by the general practitioner or by the obstetrician as it should be." (Ehrenfest).

It is a well known fact that two people cannot measure a pelvis and have their measurements agree accurately, but this does not destroy the value of pelvimetry. It is not important that the physician be able to measure the pelvis accurately, but that he be able to recognize and distinguish between normal and abnormal pelves. Occasionally, one will hear a practitioner say that he does not meet with contracted pelves in his practice. Dice, in his recent article on "Choice of Delivery in Moderately Contracted Pelves," explains this by saying: "Few men in general practice take more than half an interest in the question of pelvic deformities because they claim to see so few of them. They think them infrequent because they never look for them or never investigate the cause of many difficult labors and still births." As to the frequency of contracted pelves, all authors differ in their figures, but a fair average would be from seven to eight per cent.

It is not the purpose of this paper to champion the cause of pelvimetry, its purpose and usefulness being too obvious, but rather to set forth some of the more recent views and methods of pelvimetry, especially of the pelvic outlet.

External pelvimetry is notoriously in-

*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

accurate as far as actual measurements are concerned, but it often gives one valuable information. The diameters usually included under external pelvimetry are the interspinous, intercristal, bitrochanteric and external conjugate. The diameters of the outlet will be considered later.

INTERSPINOUS DIAMETER

This measurement is taken between the anterior superior spines of the ilium and of itself is of little value. The bony spines are relatively broad and if the knobs of the pelvimeter are placed anywhere on their surface, a difference of from one to two centimeters is found. However, if the knobs of the pelvimeter are carried to the most outward projection of the spines and firm pressure is made, a difference of over one-half centimeter is rarely found. The interspinous diameter in normal pelves is from 24 to 26 centimeters.

INTERCRISTAL DIAMETER

This measurement is taken at the widest point of the iliac crests, by bringing the tips of the pelvimeter firmly against the outer lip of the crests. In normal pelves this diameter varies from 27 to 29 centimeters. Like the interspinous diameter, the intercristal of itself is of little value but there is a normal difference between the two measurements of from two and one-half to three centimeters. When the interspinous diameter approaches, equals, or is larger than the intercristal, one is justified in suspecting a rachitic pelvis.

BITROCHANTERIC DIAMETER

This diameter is the measurement between the trochanters of the femurs when the patient's thighs are closely adducted. Of all the external measurements this is the least accurate and of very slight value.

EXTERNAL CONJUGATE, OR BOUDELOCQUE DIAMETER

The external conjugate is measured by inserting one tip of the pelvimeter into the depression below the spine of the last lumbar vertebra while the other tip is held firmly against the median and upper part of the symphysis pubis. The anterior point is easily located, but the depression below the last lumbar spine is not always easily found. If a line be drawn between the iliac crests, a point taken three quarters of an inch below the middle of this line will locate quite accurately the spine of the last lumbar vertebra. Another method of value in patients who show the dimples of Michaelis's Rhomboid, is to take a point 2.5 centimeters above the middle of a line connecting the two lateral dimples. The external conjugate is one of the most important external measurements, though it is not of so much value as Boudelocque first thought. He asserted that by deducting three inches from this measurement, one would know the length of the true conjugate. Williams has in his collection two pelves with equal true conjugates but the external conjugates vary by five centimeters. Although the external conjugate is not an accurate index to the conjugate vera, this much can be said concerning it, that when the external conjugate measures twenty centimeters or more, one is safe in assuming that the true conjugate is not shortened. An external measurement of between eighteen and nineteen centimeters would lead one to further investigation, as about one-half of all pelves with these measurements show a slight shortening of the true conjugate. However, when the external conjugate falls below seventeen centimeters, in nearly all cases there is a contraction of the inlet.

If one is to judge by the literature on the subject, routine pelvimetry of the outlet has been sadly neglected. Klien, in his monograph upon this subject, published in 1896, called attention to the importance

of pelvic outlet contraction. Williams, in this country, has written more upon this subject than any other author and was first to note the great frequency of funnel pelves among American women. In the typical funnel pelvis, the contraction is entirely at the outlet, the inlet being of normal size. The diameters of the outlet usually measured are the bisischial or trans-

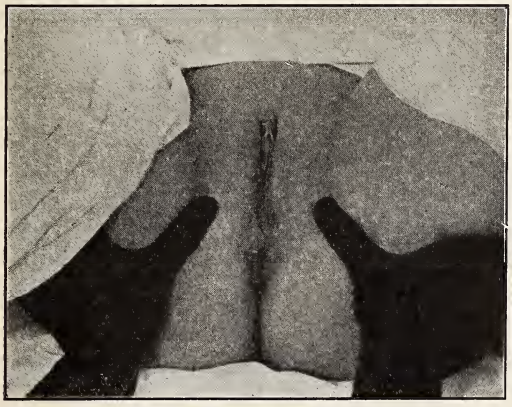


Fig. I. Palpating the Pubic Arch.

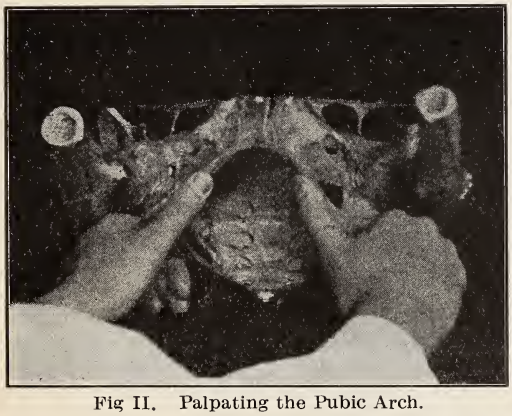


Fig II. Palpating the Pubic Arch.

verse and the anteroposterior diameters. Klien has added to these the anterior and posterior sagittal diameters. The following method of outlet pelvimetry is that taught by Professor Williams of Johns Hopkins and has been adopted by Professor Peterson for the University of Michigan Maternity Service.

The patient is placed in the dorsal position, the buttocks being at the edge of the table or the bed, and the legs flexed. The width of the pubic arch and course of the ischiopubic rami is outlined by palpation with the inner surface of the thumb, the remaining fingers grasping the buttocks

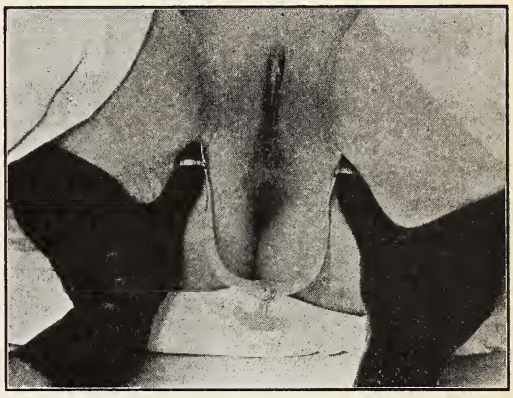


Fig. III. Measuring the Transverse Diameter of the Outlet.

below the guteal folds. (Figures 1 and 2). The transverse diameter of the outlet or the bisischial is next measured. For this purpose a special pelvimeter designed by Williams is used. The two measuring arms are equipped with rings, which



Fig. IV. Measuring the Transverse Diameter of the Outlet.

encircle the thumbs and the flat tips lie in close apposition to the nails. The thumbs palpate the most widely distant portions of the two tuberosities and the distance is read off from a scale at the end of the pelvimeter. (Figures 3 and 4). The

anteroposterior diameter of the outlet is measured by having the patient's buttocks brought well over the edge of the table or bed, in order to palpate the posterior surface of the tip of the sacrum. With one bulb of the pelvimeter at this point, and

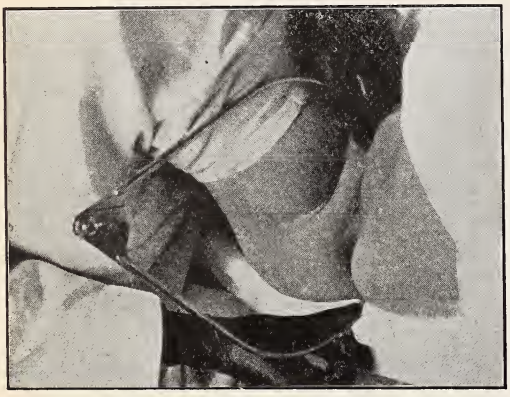


Fig. V. Measuring the Anterio-Posterior Diameter of the Outlet.

the other carried in the median line to the lower margin of the symphysis, the reading is taken. (Figures 5 and 6). In case the coccyx is ankylosed, the posterior point must be taken from the tip of the coccyx. It is necessary to deduct one

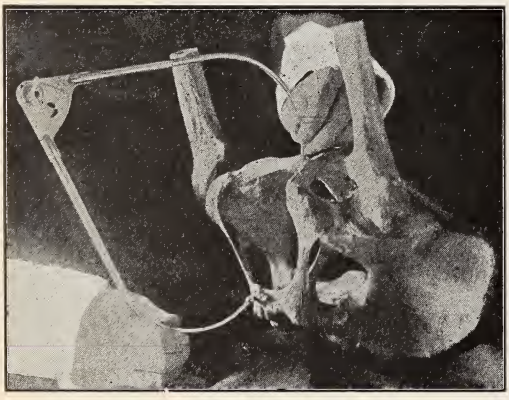


Fig. VI. Measuring the Anterio-Posterior Diameter of tne Outlet.

centimeter from the anteroposterior measurement to compensate for the thickness of the sacral tip. Klien has designated the distance from an imaginary line connecting the ischial tuberosities to the lower margin of the symphysis, as the anterior sagittal diameter of the outlet; likewise the distance from this same line to the sacral tip, he calls the posterior sagittal

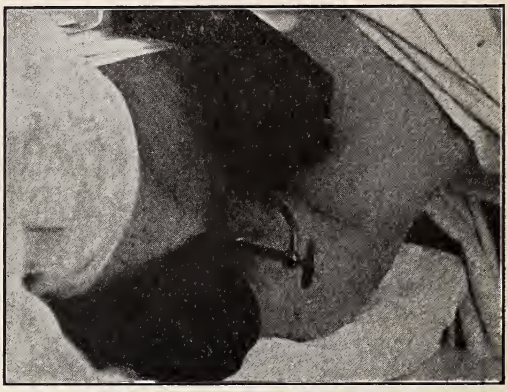


Fig. VII. Measuring the Anterior Sagittal Diameter.

diameter. To measure the anterior and posterior sagittals, Klien devised a special pelvimeter which has been modified by Williams. It consists of a horizontal crossbar and a short straight arm connecting the cross-bar and the scale, while a longer curved arm measures the diameters. The cross-bar is placed to coincide with a line connecting the tubera, the tip of the measuring arm is carried forward to the lower border of the symphysis and the anterior sagittal diameter taken.

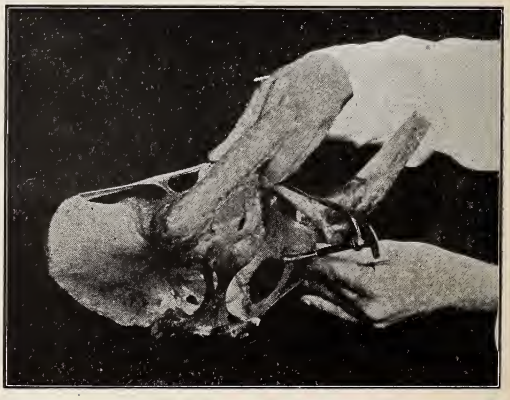


Fig. VIII. Measuring the Anterior Sagittal Diameter.

(Figures 7 and 8). In the same manner the measuring arm is carried to the posterior surface of the tip of the sacrum, the hori-

zontal cross-bar remaining in the same position. (Figures 9 and 10). The scale shows the length of the posterior sagittal diameter plus the thickness of the sacral tip, so it is necessary to deduct one centimeter from this reading.



Fig. IX. Measuring the Posterior Sagittal Diameter.

The diameters of the outlet of a normal pelvis should measure, according to Klien who based his conclusions upon the study of one hundred and thirteen normal pelves, as follows:

Transverse, 11 centimeters.



Fig. X. Measuring the Posterior Sagittal Diameter.

Anterior sagittal, 6 centimeters.

Posterior sagittal, 9.5 centimeters.

Anteroposterior, 11.5 centimeters.

Williams measured one hundred and eighty-five normal pelves and obtained as average outlet measurements the following:

Transverse, 10.5 centimeters.

Anterior sagittal, 5 centimeters.

Posterior sagittal, 7.5 centimeters.

Anteroposterior, 11.5 centimeters.

During the last year at the University of Michigan Maternity outlet measurements have been taken on seventy patients with normal pelves. The average diameters were as follows:

Transverse, 10.2 centimeters.

Anterior sagittal, 5.4 centimeters.

Posterior sagittal, 8.5 centimeters.

Anteroposterior, 11.3 centimeters.

The importance of careful examination of the pelvic outlet cannot be emphasized too much. Williams has shown that in his clinic forty-four per cent of all pelvic contractions in white women occurred at the outlet. It is a fact well known to every physician who does obstetric work, that nature uses all the available space of the pubic arch in the birth of the head. The pubic arch normally forms an angle of about ninety degrees and the occiput comes to lie well up to this angle lessening the strain on the posterior part of the perineal body. When the pubic arch is narrowed by a close relation of the tuberosities, the space normally available for the occiput cannot be used, and, in order that the birth of the head be accomplished, most of the strain must fall posterior to the tuberosities. This gives rise to deep second degree tears, often third degree tears, and sometimes to fracture of the coccyx. The prognosis in outlet contractions does not depend entirely upon the narrowing of the pubic arch, but upon the length of the posterior sagittal in relation to the transverse diameter. For example, in a case where the transverse diameter measured eight centimeters and posterior sagittal measured 7.5 centimeters, spontaneous delivery would be unusual, while a large child has been born when the transverse and posterior sagittal diameters

measured 6.5 and 9 centimeters respectively. Without doubt many cases of difficult low forcep operations, large tears of the perineum and still-born children have as their explanation outlet contractions.

In this connection I wish to review the history of a patient who entered the gynecologic service this spring for repair of external lacerations of a rather marked degree.

She gave the history of having been pregnant three times, of carrying the children to full term, and of long difficult labors terminated each time by a forceps delivery and birth of a dead child. Upon examination of the pelvis the external measurements were normal for the inlet, but the pubic arch was markedly narrowed and the posterior sagittal was shortened to such an extent that birth of a normal child's head seemed impossible, and judging from her history, it was impossible.

In the University of Michigan Maternity service during the past year we have had three cases of typical funnel pelves. In the typical funnel pelvis the transverse diameter of the outlet measures eight centimeters or less, or the anteroposterior diameter measures nine centimeters or less, the inlet measurements being normal.

Case 1. Obstetric History, Number 551—The first case was that of a young married woman, a primipara at full term. Her pelvic measurements were as follows: Interspinous, 22.5 centimeters; intercristal, 26 centimeters; bitrochanteric, 30 centimeters; external conjugate, 17.5 centimeters. The measurements of the outlet were: anteroposterior, 9.5 centimeters; transverse, 8 centimeters; anterior sagittal, 7 centimeters; posterior sagittal, 7 centimeters; pubic arch 70°. The labor lasted about twenty-four hours, but the child, weighing six pounds, was delivered spontaneously. However, there was a large second degree tear extending down nearly to the rectum, and the child's head showed very marked molding.

Case 2. Obstetric History, Number 597—The second case was one of incomplete abortion at the fourth month and the case was only interesting from the point of the pelvic measurements. These were as follows: Interspinous, 26.5 centimeters; intercristal, 31 centimeters; bitrochanteric, 32 centimeters; external conjugate, 18.5 centimeters. The measurements of the outlet were: Anteroposterior, 11 centimeters; transverse, 8 centimeters; anterior sagittal, 5 centimeters; posterior sagittal, 9 centimeters; and pubic arch about 70°.

In Case 1 the prognosis was unfavorable for with a transverse diameter of 8 centimeters the posterior sagittal measured only 7 centimeters. However, the small size of the child explains the spontaneous delivery. In Case 2 the prognosis would be favorable for the long posterior sagittal of 9 centimeters would compensate for the transverse of 8 centimeters.

Case 3. Obstetric History, Number 584—We have in the Maternity service at present a young woman in the eighth month of pregnancy who has pulmonary tuberculosis, and whose pelvis is of the typical funnel type. The distance between the tuberosities is 8 centimeters, and the posterior sagittal diameter measures 7 centimeters. The question of outlet contraction is of great importance in her case, for Vaginal Cesarean section, version, and extraction has been mentioned as a possible means of delivery, without submitting the patient to the strain of a long, hard labor. However, if the outlet is contracted, could the after-coming head be delivered if the case goes on to full term?

As a fairly typical course of labor in a case with moderate outlet contraction, I wish to briefly relate this history.

Case 4. Obstetric History, Number 526—The patient, a young white primipara, was examined and found to have normal inlet measurements; however, the pubic angle was narrow and the transverse diameter measured 8.5 centimeters. The posterior sagittal diameter was of normal length. On December 26, 1910, at 4 P. M., the patient went into labor. The progress was normal and at 6:45 P. M. the membranes ruptured. At 11 P. M. slight bulging was noticed, but at 2:30 A. M. on December 27 the head, having been on the perineum two and a half hours without any appreciable advancement, and the patient's pulse being 105, her temperature 100°, it was thought advisable to terminate the labor by the application of forceps. A low forceps operation was performed. The head was advanced with great difficulty and, at 3:15 A. M., the child was delivered and

found in excellent condition. The mother had a large second degree laceration.

Cases 1, 2 and 3 are examples of true funnel pelves, there being no contraction of the inlet. The following case is a good example of a generally contracted funnel pelvis.

Case 5. Obstretic History, Number 601—A white school girl, age fourteen years, admitted in July, 1911, in the second month of pregnancy. The external pelvic measurements are as follows: Interspinous, 21 centimeters; intercristal, 24 centimeters; bitrochanteric, 27 centimeters; external conjugate, 16 centimeters; anteroposterior of the outlet, 9.5 centimeters; bisischial, 8 centimeters; anterior sagittal, 4.5 centimeters; posterior sagittal, 8.5 centimeters; pubic angle about 75°.

In this case all of the external measurements of the inlet are shortened but the relative lengths are maintained. The distance between the tuberosities is a scant 8 centimeters.

These brief histories are sufficient to show that outlet contractions are not uncommon, as the cases were collected from the last eighty patients admitted to the maternity service.

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DECEMBER

EDITORIAL

MEDICAL FAKIRS IN BUNCOMBE COUNTY

WHILE the people of Buncombe County, (N. C.) may like that form of speech which has been named after them, they object to being buncoed. In this case the county medical society took it upon itself to rid the community of a company of swindlers which was engaged in robbing the public, by means of a medical confidence game.* While the company might have remained immune to prosecution under the medical practice act had they lived up to their promise to cure by means of electricity and radium, it evidently felt that to impress the public, some more vigorous treatment must be used. Unfortunately for themselves, they hit on the "gall-stone" fake which has been so effectively shown up in the Chemical laboratory of the American Medical Association. This gave the medical society the necessary evidence for a successful prosecution and the swindlers, realizing this, made off for parts unknown.

Would Michigan accord them the same treatment should they come here?

*Jour. A. M. A., Nov. 4, p. 1553.

NOSTRUMS

THERE are two classes of cure-alls sold to the public,—patent medicines, etc., and near-cure-alls which the doctor is induced to prescribe—"dispensed only on a physician's prescription." It is authoritatively stated that the amount spent in this country each year for nostrums of the first class, if divided equally among all the physicians in the United States, would give each and every one between Four and Five Thousand Dollars, a very comfortable income.

How soon will the nostrums of the second class be added to those of the first? Is this not past history? Many of our rankest nostrums and patent medicines are still being advertised to doctors in a certain class of medical journals both at home and abroad.

The traffic in these nostrums is being curbed by our National Government and National Medical Society. This propaganda merits the support of the medical societies of the various states and also of the proper state officials.

On another page (636) we give a few abstracts of some recent convictions obtained by the federal authorities against some vicious nostrums. The facts brought out by these convictions under the much maligned "Food and Drugs Act," should be sufficient to make their sale illegal in any state. How many prosecuting attorneys are prohibiting the sale of these nostrums?

THE JOURNAL FOR 1911

DURING the year we have discontinued the "Progress of Medical Science" department and have, instead, invited the members in charge of the various departments to contribute occasional scientific editorials. The list of "Editorial Collaborators" appears at the head of the editorial page, and editorials signed by initials are to be credited to these men. From time to time, also, certain members will be asked for special editorials upon special subjects as in the past, and all members are at all times invited to send in anything they may have.

The department of "County Society News" was established to take care of the many papers read before the county societies which cannot be published in full in the JOURNAL. Abstracts of these papers are solicited. We wish also all items of general news interest, or of interest to members of other societies throughout the state. New or practical points brought out in discussion make valuable material for the JOURNAL. The number of pages devoted to county society reports has increased from 71 in 1910 to 100 in 1911. These reports represent 44 counties instead of 43. The number of reports is 110 as against 108 last year. Our county secretaries are giving us much better reports and we hope to present our readers even better ones next year.

We have included in the general index this year the papers abstracted in the county society reports, thus making the subject more easily accessible. We believe this will make these abstracts more valuable.

Herewith we present a table showing what the contents of the JOURNAL have been since it was organized, giving the number of pages of Original Articles, Editorials, Progress of Medical Science, Advertising and Miscellaneous, (including Special Articles, Book Notices, Correspondence, Program and Proceedings of the Annual Meetings, Council Meetings, County Secretaries Associations, etc). The number of illustrations used is also given.

ANALYSIS OF THE CONTENTS OF THE JOURNAL

Department	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911
Original Articles, pp.	145	373	312	322	347	335	348	352	363	414
Editorial, pp.	15	25	54	70	52	65	48	49	50	57
Co. Soc. Reports, pp.	3	160	72	65	59	43	27	40	71	93
Prog. Med. Science, pp.	0	0	53	73	97	79	71	58	27	2
Miscellaneous, pp.	33	78	85	98	127	137	160	131	151	100
Illustrations used.	0	19	33	30	17	16	34	33	83	59
Advertising pages	52	190	223	242	263	255	203	206	174	202
Total pages.	248	826	799	870	942	904	857	836	836	868

The advertising pages have contained more society matter than ever before. Deducting the pictures of ex-presidents published in the December number of last year, the number of illustrations has increased.

We have also prepared a table showing by counties, the number of original articles and county society reports published during 1910 and 1911. The number of original articles has fallen from 78 in 1910 to 74 in 1911, but the pages occupied have increased from 363 in 1910 to 414 in 1911, the most published in any year. These original articles are contributed from 17 county societies this year.

	1911 Co. Soc. Reports	Orig. Art.	1910 Co. Soc. Reports	Orig. Art.
Alpena	1	0	0	0
Antrim	0	0	1	0
Barry	0	0	0	0
Bay	5	0	2	0
Benzie	0	0	0	0
Berrien	1	0	1	0
Branch	2	0	2	3
Calhoun	4	6	3	1
Cass	0	0	0	0
Charlevoix	1	0	0	0
Cheboygan	1	0	0	0
Chippewa	3	2	4	0
Clinton	2	0	1	0
Delta	0	0	1	0
Dickinson	1	0	0	1
Eaton	4	0	2	0
Emmet	0	0	0	0
Genesee	7	3	1	1
Gratiot	1	0	0	0
Gogebic	0	0	0	0
Grand Traverse	9	0	10	3
Hillsdale	3	1	2	1
Houghton	1	2	3	4
Huron	4	0	4	1
Ingham	1	0	3	3
Ionia	0	1	3	0
Isabella	0	0	1	0
Jackson	2	0	0	1
Kalamazoo	4	6	5	4
Kent	3	9	3	8
Lapeer	3	0	1	0
Lenawee	1	0	1	0
Livingston	0	1	0	0
Macomb	0	0	0	0
Maistee	2	0	1	0
Marquette	1	1	3	0
Mason	0	1	1	0
Mecosta	2	0	1	3
Menominee	0	1	1	0
Midland	0	0	0	0
Monroe	2	0	1	0
Montcalm	2	1	5	0
Muskegon	8	1	9	3
Newaygo	1	0	1	0
Oakland	0	0	2	0
O. M. C. O. R. O.	1	0	2	1
Ontonagon	1	0	1	0
Osceola	0	0	1	0
Ottawa	4	0	8	0
Presque Isle	0	0	0	0
Saginaw	0	1	0	0
Sanilac	1	1	1	0
Schoolcraft	2	0	1	1
Shiawassee	2	0	2	0
St. Clair	1	0	2	0
St. Joseph	1	0	3	2
Tri County	2	0	1	0
Tuscola	3	0	2	0
Washtenaw	1	6	0	6
Wayne	9	30	5	31
	110	74	108	78

THE PHYSIOLOGICAL STANDARDIZATION OF ERGOT

IT is a matter of common observation that the action of ergot is very variable. At one time, or in one series of cases, when the drug is used either for its effect upon the uterus or for the purpose of raising the blood pressure, an immense amount of good seems to follow its administration. Again, in a second series of cases, the results are disappointing. In accounting for these discrepancies, we sometimes lose sight of the fact that preparations of the drug, such as the fluid extract, made from different lots of the crude drug, differ greatly in strength. We forget, too, that age is an important factor, many individual extracts deteriorating rapidly. Or, if we have these points in mind, we welcome the "detail man" of the pharmaceutical houses who presents us with samples of "cornutol," "ergotin," "ergotole," etc, with the statement that they are thus and so many times stronger than the fluid extract, that they never vary in strength and that they never deteriorate. The particular preparation handed out seems, as we listen to the eloquence of its sponsor, just the one we are looking for. It is given a trial and again there is disappointment.

A most excellent, and we believe a most reliable study of the whole subject has recently been made by Edmunds and Hale, and their results published in Bulletin No. 76 of the Hygienic Laboratory,

Public Health and Marine Hospital Service. Part of the work was done in the government laboratory in Washington and part at the University of Michigan. The study embraces an historical review of the early methods of studying ergot, a review of the unsatisfactory condition of our knowledge at the present time, a study of various methods of assay by physiological and by chemical means, and a report on the strength of ergot preparations on the market, both pharmacopoeial and non-pharmacopoeial. The phamphlet, which may be had for the asking, is worthy of careful study.

Physiological standardization involves many difficulties, yet for certain drugs, such as digitalis, cannabis indica, aconite, and ergot, for which there is no chemical assay, the physiological test must be relied upon and "no one, who has looked into the subject at all carefully, denies the value that such methods of assay possess."

For the testing of ergot there are three methods available, the effect of hypodermic injections upon the color of the cock's comb, the effect on the uterus of either pregnant or non-pregnant animals, and the effect upon the blood pressure of experimental animals. Edmunds had previously expressed his dissatisfaction with the cock's comb method, but, after more careful study, is satisfied that there is a close relationship between the findings by this method and by the uterine method. The results of the experiment on the pressor action, as determined by blood pressure tracings, were very confusing, and it seemed difficult, if not impossible, to correlate them with the results obtained by the other methods.

Inasmuch as the uterine response seems to run very closely parallel to the action on the cock's comb, either may be used in assay. The latter is by far the easier and is recommended by these authorities. A quotation is here worthy of notice: "The method, just as the uterine method, requires great care and judgment as to dosage and it is not a perfectly simple matter to compare the intensity of reaction in two fowls. Manufacturers should learn that in order to carry out physiological assays which will be of any value beyond a cheap form of advertisement, they must have suitably trained men. To employ any other for such work is a serious error and should call forth the severest criticism."

It is our belief that our better manufacturers are making an honest effort to reach a proper standard, yet according to this work of Edmunds and Hale, some pharmacopoeial preparations, made by reliable firms, are four times sronger than others.

Of the proprietary preparations *cornutol*, made by the H. K. Mulford Co., was found equal in strength to the standard used by the authors, which was a fluid extract personally made from the best Spanish ergot. It, however, according to the claims made for it, should have been two and a half times as strong. The "ergot purified" of Wyeth required a dose 50 per cent larger than a good fluid extract, although the label says it is a concentrated, purified solution of the active constituents of ergot, physiologically tested and standardized. Ergotole, made by Sharpe and Dohme, was found to be one-third the strength of the standard extract, notwithstanding the claim that it is two and a half times stronger. Inasmuch as it is advertised as a permanent solution, one cannot excuse it on the ground of deterioration.

Ergone, of Parke, Davis and Co., was tested through two series. In the first it was found very unsatisfactory; in the second it compared favorably with a good extract made by the same firm. Both ergone and the fluid extract, however,

were only half as strong as the standard made by the authors. Either both were weak to start with or both deteriorated equally. Ergone, however, is "a permanent solution." One point in the latter's favor was the fact that it raised blood pressure but little, due to the fact that there is in it but a small amount of putrefactive amines, on account of the aseptic method of manufacture.

It seems probable that all preparations thus far on the market undergo deterioration, and the authors wisely conclude that the label should give the date of manufacture.

Although the important work of Edmunds and Hale was undertaken more for the purpose of determining the relative values of different methods of biological assay, they have given us some important practical results and taught us to be wary of the "ergot in permanent solution."—

B. R. S.

IN MEMORIAM

Ovidus A. Griffin, University of Michigan, 1899, one of the most prominent physicians in Ann Arbor, died Oct. 27th, after an illness of less than a week of spinal meningitis.

Dr. Griffin had not been feeling well for some weeks, but he did not realize that his condition was in any way serious until he was taken very ill at his office Sunday, Oct. 22. He was removed to his apartment in the Cutting flats, where every possible effort was made to save him. For several days his chances seemed to be about even, but toward the last the physicians realized that there was no hope.

Dr. Griffin was 39 years old, and was born in Fayette, O., where he acquired his early education, graduating from the State Normal School at Fayette with the degree of B. S., and later, studying with Dr. Hoover of Fayette, before coming to the University of Michigan.

He served for three years as first assistant in ophthalmology and aural surgery in the University. He was a member of his County, State and National Medical Societies, as well as of the American Academy of Ophthalmology and Otolaryngology, etc.

MEDICAL ECONOMICS

CONVICTIONS UNDER THE FOOD AND DRUGS ACT

(J. A. M. A., Oct. 28, 1911, p. 1472)

CHANDLER'S HEADACHE BUTTONS

Another typical headache mixture, each "button" containing $3\frac{1}{2}$ grains of acetanilid as well as caffein. The label stated that it would cure rheumatism, nervous headache, neuralgia and other things "in fifteen minutes." This, of course, was an untruth and the stuff was declared misbranded. The Chandler Medicine Company of St. Louis, who distributed this stuff, pleaded guilty and was fined $10 and costs. (*Notice of Judgment, No. 931.*)

WHITES' HEADEASE

O. P. White of Rusk, Texas, made and sold a liquid "headache cure" which contained acetanilid, alcohol and caffein. According to the label, it "contains no . . . . enslaving drugs." The jury before whom the case was tried agreed with the Department of Agriculture that acetanilid and caffein are enslaving drugs and the product was therefore misbranded. White was fined $25. (*Notice of Judgment, No. 961.*)

DR. MOFFETT'S TEETHINA

T. N. Flourney, who does business in St. Louis under the name of C. L. Moffett Medicine Company, shipped a consignment of Dr. Moffett's Teethina into another state. Analysis of this preparation showed the product to be a powder consisting essentially of opium, calomel, calcium carbonate, and powdered cinnamon.

This mixture was said to aid digestion, heal eruptions and sores, prevent a tendency to colic,

remove and prevent worms in children, strengthen the child and make teething easy—and to do several other things. All of these claims were declared false by the government officials and on that ground the preparation was declared misbranded. Flourney pleaded guilty and was fined $10 and costs.—(*Notice of Judgment, No. 1019.*)

(J. A. M. A., Nov. 4, 1911, p. 1554.)

TUCKER'S ASTHMA SPECIFIC

This nostrum has been exposed at various times in the Journal. It is exploited by a Dr. Nathan Tucker, Mt. Gilead, O. It contains cocain and is said to be a "specific for asthma, hay fever and all catarrhal diseases of the respiratory organs." The government declared the stuff misbranded on two counts: (1) It contained cocain and the label bore no statement of the quantity or proportion of this drug; (2) it was not a specific. Tucker pleaded not guilty, but the jury before whom the case was tried declared him guilty on the first count. Tucker's lawyer filed motions in arrest of judgment and for a new trial but both motions were overruled by the court and Tucker was fined $150 and costs.—(*Notice of Judgment, No. 1077.*)

Jour. A. M. A., Oct. 21, 1911, p. 1385.

NYAL'S HEADACHE WAFERS.

This is another nostrum of Frederick Stearns & Co., of Detroit. Each of these "headache wafers" contains 4 grains of acetanilid and 1 grain of caffein alkaloid. In spite of the presence of these powerful drugs, the label stated: "It does not produce any bad after effects, nor does the system become habituated to its use so as to produce a noxious drug habit."

The stuff was declared misbranded; first, because the word "Nyal" was fictitious; second, in that it was not a cure for headache; third, because it would produce bad after effects; and fourth, because it would also produce a noxious drug habit. Wayland Stearns, second vice-president of Frederick Stearns & Co., entered a plea of *nolo contendere* and was fined $2.—(*Notice of Judgment, No. 908.*)

PEEBLES' EPILEPSY CURE

This nostrum is exploited by a concern called "Dr. Peebles Institute of Health" at Battle Creek, Mich. The treasurer and general manager of this so-called institute is W. T. Bobo, M. D., a quack who advertises to cure goitre. Peebles' so-called "cure" consists of two preparations, his "Brain Restorative for Epilepsy and all Diseases of the Brain and Nervous System" and his "Nerv-Tonic for the Blood and Nerves." Analysis by the Bureau of Chemistry showed that the "Brain Restorative" was a solution of ammonium, sodium and potassium bromide with an alcoholic preparation of valerian, flavored with bitter almonds. "Nerv-Tonic" was a sweetened, watery-alcoholic solution of vegetable products, containing no material having distinctive, active characteristics. The stuff was declared misbranded because of the falsity of the therapeutic claims. The company by its treasurer, filed a plea of *nolo contendere* and was fined $5.—(*Notice of Judgment, No. 1079.*)

THE PRACTICAL DIAGNOSIS OF UNCOMPLICATED ULCER OF THE STOMACH

JAMES TAFT PILCHER, M. D.
Brooklyn, N. Y.

DISCUSSION

C. D. AARON,* Detroit: That Dr. Pilcher has been able to verify his observations by operation is especially valuable. The doctor said nothing about the character of pain in gastric ulcer as determining its location. The pain is peculiar. It is a boring, gnawing, aching and drawing sensation. It is never colicky nor unbearable. It is worse after meals, therefore, called "food distress." When we find that the pain is relieved for an hour or an hour and a half after eating, we call that "food relief." When the food relieves the pain for two hours or longer, followed by a gnawing sensation, or a sort of hunger pain, we know, or we suspect, that the ulcer is in the duodenum. Therefore, what the doctor said as to the exact time of relief and the definite time of pain, is important in the diagnosis.

One objective measure in making a diagnosis of ulcer, is the finding of occult blood in the feces when the patient has been placed on a meat free diet. Occult blood in the feces, with symptoms of vomiting, pain, and persistent sour stomach, is very suggestive. I have found recently, the use of Einhorn's thread test valuable in making the diagnosis. Einhorn's thread test consists in the taking of a white braided silk thread to which is attached a small

*Dr. Aaron's discussion is reprinted with author's corrections which failed to reach us in time last month. [Editor.]

duodenal bucket. There is a knot tied about seventy-five centimeters from the duodenal bucket, and a loop made in the end of the thread. This loop is passed over one of the ears of the patient so that this knot will not go down any further than the incisor teeth. The patient is given this apparatus, preferably at night, with directions to swallow the bucket. From two to eight hours after the patient has taken this bucket it will enter the duodenum. When the bucket is removed we look along the white thread for a stain, either brown or red. If we find a stain 39 to 43 centimeters from the knot, the ulcer is located in the cardia. Should we find a stain from 45 to 50 centimeters from the knot, the ulcer is in the body of the stomach. If the stain be found 53 to 56 centimeters from the knot, the ulcer is in the pylorus, and should it be over 60 centimeters, the ulcer is in the duodenum. For the blood we can make the same examination for the stain on the thread which we do for occult blood in the feces. I have found this thread test valuable, not only in making a diagnosis, but also valuable in telling us whether or not the ulcer, after an ulcer cure, is healed, for after the ulcer is healed, Einhorn's thread test shows no stain on the white thread.

Dr. G.W. McCaskey, Fort Wayne, Ind.—I am obliged for the invitation to participate in the discussion of this interesting paper on a practical subject, and one which appeals to every practitioner, especially one following along this line of work. There are a few points brought out by Dr. Pilcher I would be very glad to refer to. I was rather surprised to hear the doctor say, if I understood him correctly the very small per centage of cases in which occult blood was found in the stool; did I understand it to be three cases out of the fifty?

Dr. Pilcher.—No, that was the blood in the stool, not occult blood.

Dr. McCaskey.—That is, then, an entirely different proposition, of course. As a matter of fact I should consider hemorrhage very much inferior to pain in the diagnosis of gastric ulcer. During the periodic exacerbations of the ulcer the symptoms to which the doctor has referred are suggestive; and we are not apt, as a matter of course, to have blood present, determined either microscopically or by the various tests for occult blood. It is well recognized at the present time, I think, that we do not have hemorrhage present enough to make a negative test along that line of any value whatever in diagnosing ulcer of the stomach or duodenum. In regard to the two types of ulcer mentioned by the doctor, we do not have any reliable method of distinguishing between the two, unless the thread test mentioned by Dr. Aaron may prove valuable along that line.

Pain as a symptom of gastric ulcer is, of course, the most reliable thing we have, especially when, as Dr. Pilcher remarked, it is of a certain regular, certain definite time in each case, one hour or two hours or three hours, yet it appears to me there are many important exceptions to this rule. Then there is a periodicity in regard to its occurrence, coming as the doctor has stated, for a period of a few weeks, and then disappearing for a certain length of time; yet its characteristic recurrence, however, with special reference to meals, I would consider of more importance, particularly when associated with distress for a considerable period of time. I am inclined to think, with reference to the question of hyperacidity, that the pain is closely connected with it. I would like to know whether Dr. Pilcher's observation in the clinic has had any bearing along this line or not. There seems to be little doubt that the existence of pain one, two or three hours after meals is closely connected with the development of it from hydrochloric acid in the gastric contents. Were it a purely mechanical proposition, the change had occurred almost immediately; but it is not; as a rule it is apt to be relieved by the injestion of food, and especially is this true if the food is of a bland character, but whether mechanical or chemical, there is some period in the process of digestion when the pain returns, and it is undoubtedly due, I think, to an increase in the quantity of hydrochloric acid present in the gastric juice. And so, therefore, it seems to me that the character and intensity of the pain may very probably bear some relation to the intensity of hydrochlorides. There are few questions more important than the early diagnosis of gastric ulcer. Its well-known relationship to carcinoma which very frequently develops upon an ulcerous base, makes it imperative upon the physician to attempt to recognize it, and, in attempting to do this, we are confronted by difficulties of a clinical character of the greatest possible degree. I will attempt to say no word further on the line of treatment; and I am just going to say this much with reference to the relationship between ulcer and cancer: In my opinion, in all those cases where laparotomy has been made for diagnostic purposes and the ulcer has been found, where there is induration, internal gas-

trotomy should be made, and the ulcer itself removed. The frequency with which cancer develops from this ulcerous basis, I believe, is not only a necessity for early diagnosis, but this radical procedure is advisable in all those cases where laparotomy has been made for diagnostic or therapeutic purposes. I thank you.

C. D. Brooks, Detroit:—I was glad to hear the last speaker speak about the necessity of making diagnosis and instituting treatment before carcinoma develops with ulcer history. Dr. Pilcher has very well stated what we all now know, that cancers of the stomach begin on an ulcer base, and the thing that confronts us is that if the ulcer history, as shown in the cancer history be of avail, we must make a diagnosis of either ulcer, or stenosis due to ulcer, or carcinoma, and we must begin at once, without waiting for further developments. I think, in long standing ulcer, the history is important —but we should not wait for emaciation. In many cases referred to us by physicians, the general practitioner will complain they are unable to diagnose the case of uncomplicated ulcer of the stomach, and I think, many times, that it is not possible to diagnose a surgical case except by referring it to the surgeon;. General practitioners complain of inability to differentiate gall stones and ulcers, when oftentimes they accompany each other. Very many times we find a high appendix and a gall bladder full of stones, and very many complications which we must always consider in a diagnosis of ulcer of the stomach, especially, with a late history.

C. H. Mayo, Rochester, Minnesota:—This is a most interesting discussion to me. I was unfortunate in missing a part of the paper, but I know much of the work of Dr. Pilcher, because we had the benefit of his valuable services over a long period, and in the examination of some hundreds of cases. The question of the laboratory findings in regard to ulcer of the stomach is most valuable, but, after all, I would depend more upon the history of the patient, and, if the laboratory findings are corroborated, they are then of great value. Sometimes they are not corroborated, and that leads to further examination which may furnish, outside of the laboratory, further proof of the ulcer of the stomach, or duodenum, or may lead you to still seek symptoms of disease of the gall-bladder or appendix. We operate on a great many cases of ulcer of the stomach, and we often find ulcer, although there have been no symptoms.

As far as occult blood is concerned, it is unnecessary, in most cases, to go minutely into it, except that it is good for one as a discipline, like the study of algebra in early school work of mental training.

The question of open ulcer, or healed ulcer, or whether an ulcer of the stomach, or duodenum, would be healed by taking drugs, any more than taking drugs will heal an ulcer of the leg, is beyond comprehension. The permanent healing of ulcers is generally fallacious; the opening may close and the bleeding may stop, as well as the pain, but that does not mean that the ulcer has healed. So far as the natural cure of ulcer is concerned, if the perforation is protected by adhesions against leakage, the ulcer is cured, regardless of whether a knife or drugs were used. Ulcers of the stomach are prone to develop into carcinoma.

James T. Pilcher, Brooklyn, N. Y., Closing: I wish to express my appreciation of the full discussion the members have accorded my paper, and to thank the Society for the privilege of presenting this subject to it.

There were several very interesting facts brought up in the discussion, and I regret that the time allotted to me was so short that I could not go into some of the smaller details and refinements of the diagnosis and treatment, which I have, therefore, had to omit intentionally.

It is very interesting in reviewing some of the recent literature on this most pertinent subject to find out what basis some authors use to form their opinions regarding the establishment of a diagnosis and what results they consider under the name of a *cure*. Among the profession especially, the name of Van Leube may be considered as one of the most prominent in the specialty of Gastro-enterology. Some two years ago he published the result of his experience in six hundred and twenty-seven cases which he had, to his satisfaction, diagnosed as Ulcer of the Stomach, and stated that he had been able to cure seventy-six per cent of these ulcers in four weeks,—his criterion of cure in his experience being an interval of four weeks freedom from pain. Yet, it is this very interval of freedom from distress that is one of the points which we must lay great emphasis on in diagnosing the presence of an ulcer of the chronic indurated type, and although months, and possibly years, may intervene between the attacks, it is, without question, the same ulcer which is causing the symptoms, and which has not

healed, but merely remained latent. Among some of the explanations for this free interval which we have recently come to appreciate, possibly the most pertinent one which causes the symptoms to subside, is that due to the lessening of the hydrochloric acid content in the stomach. If these patients are examined in the intervals between their attacks of pain and gastric distress, we find, almost without exception, a marked diminution in the acidity as compared with that which was made during an acute exacerbation. This fact is more evident when one considers the cases of duodenal ulcer in which there is, as a rule, a marked hyperacidity of the gastric juice. During the interval of freedom in these cases, it is not unusual to find a diminution of twenty-five to forty points in the degree of acidity.

I do not believe that a great many of these calloused ulcers can heal spontaneously, and if one takes the trouble to study their pathology through the microscope and the structure forming their base, one comes to the conclusion that such a termination is practically impossible. The result of the latest study in this subject by laboratory workers and pathologists, and by those surgeons and physicians who have correlated the chemical diagnosis with observations at the operating table, seems to indicate that the impressions conveyed by foreign authors, and indeed, by many of our American authorities, are really misrepresentations, and the statistics contained in the text books emanating from them, are based on mistaken premises and indicate misconceptions, and would indicate a study of the subject based more on "library" findings rather than on those of the operating room and the pathological laboratory.

Dr. Aaron has so pertinently pointed out that some men have been able, to a large degree, to base their diagnoses on the character of the pain. I was unable, in the brief presentation of the subject, to consider this phase in detail, and as the paper is supposed to cover the practical diagnosis, I have omitted this consideration as it does not seem to me to be particularly relevant to the diagnosis, nor is the position or situation of the pain in the upper abdomen so indispensable to a diagnosis. It is, as we have tried to emphatically indicate, the nature of the occurrence of the pain, its precision in returning and its regularity of occurrence. It may be different for different patients, but the same patient does not vary from his or her own schedule. I have seen and examined, through the opportunity offered me by the Drs. Mayo, a great many cases of ulcer of the duodenum and of the stomach, and in none of them has the diagnosis been made from an examination of the stool for occult blood. It is one of those findings which is to be classed with those other signs and symptoms that are corroborative but not diagnostic. They are interesting but not essential.

Dr. Aaron also brought up the question of the use of the Einhorn bucket and thread test. This is an extremely interesting and clever device but should be viewed in the same light as occult blood in the feces, namely, as corroborative, rather than diagnositc. I have taken occasion to use this thread and bucket test in twenty-five cases of ulcer of the duodenum and in ten cases of ulcer of the stomach, in which the condition was demonstrated in each instance at operation, at which time we were able to exactly determine the situation of the ulcer. I found that the stain which occurred in some of the instances was rather misleading as to the site of the lesion, and in some of the cases there was no stain at all, the operation having been undertaken on the symptomatology only.

Hemorrhage from the bowel or the stomach may be very misleading, as there are many conditions other than ulcer which give rise to active hemorrhage in the alimentary tract, but when present in conjunction with a fairly typical symptomatology its occurrence is quite suggestive that operative interference might well be subsequently considered. The remark of one of our Canadian colleagues on this subject is rather trite,—"that the diagnosis of ulcer of the stomach or duodenum, from the finding of blood in the stool, is comparable to making diagnosis of pregnancy from a torn perineum."

I agree fully with the position which Dr. Brooks has taken regarding the relationship between ulcer and cancer and am only sorry that I have been unable to include this very pertinent theme in the present paper. I think, however, that it has been so absolutely proven as to need no further discussion on my part.

The question of when to decide that an ulcer is turning into or undergoing a carcinomatous degeneration is quite difficult, but correspondingly important, as it is obvious that many men who are not willing to have an ulcer operated on early wait until cancer has developed, which, when it is recognized, is usually so far advanced as to preclude surgical removal.

Probably the one symptom which is the most

important in determining this change is the consideration of the degree of pain from which the patient suffers. This, as a rule, changes quite perceptibly in its character. As a rule the intake of food does not cause, as previously, the entire disappearance of pain in the stomach and that occasions a renewal of the pain at a progressively shortening interval. It usually changes from a burning to a boring or dragging sensation. Besides this, we have also to help us the increase in the degree of stenosis, which is, as a rule, present, and a gradually developing cachexia as an indication of absorption from the malignant tissue.

One reason why some surgeons meet with failure in the result of their cases on which they have operated, is that they do not all as yet appreciate that gastric ulcer seems to be due, at least in some instances, to extra gastric lesions, such as appendicitis, gall stones, cholecystitis, etc. These additional pathologic factors should be removed in every case operated upon, and particularly in those in which the ulcer occurs in the duodenum. Otherwise the original reflex irritation which seems to have been the cause of some of the ulcerations continues to send out its stimuli and a recurrence or continuation of the gastric lesion may be anticipated.

The exposition of the subject by Dr. Mayo, is, of course, extremely interesting to us all and one feels a great deal of hesitancy in making any remarks on the discussion which he gave us. The opinions which he expressed are to be viewed as irrevocable facts and not inferences. As intimated by him and corroborated by myself, we have come to realize that the laboratory findings are not as important as some people would lead us to believe, in order to reach a diagnosis of ulcer of the stomach, and, as I have tried to point out, they should be used merely as corroborative evidence.

The only test which I believe we can place any confidence in at all is the appearance in the stomach extract from the test meal of a dirty, muddy fluid which is emphasized at times by the occurrence of black streaks in it. This has not occurred in any other extracted stomach contents other than those from patients with ulcer or cancer in an experience of something over eight thousand analyses.

The history is, therefore, the main point to be considered, and one must go back to the very earliest beginning of the complaint. Indeed, one is very frequently surprised in taking a careful history, when they are clever enough to get at the origin of the trouble, to find that it dates back to childbood, and, in fact, the greater majority of cases of the duodenum practically find their incipiency in early manhood. I know of one case of a baby which was operat d on at the age of three, who had a typical duodenal ulcer which was relieved by operation, with a perfect subsequent recovery. Two others have come to my notice lately who were still younger. I thank you very much for your attention.

Chairman Wilson: I would like to ask Dr. Pilcher one question,—if the degree of hydrochloric acid in the stomach is of any value in determining whether the ulcer is undergoing carcinomatous change or not?

Dr. Pilcher: I am unable to answer Dr. Wilson's question specifically. We have seen five cases of ulcer of the duodenum in which there has been no hydrochloric acid present at all, and two cases of ulcer of the stomach in whom there was an achlorhydria hemorrhagica gastrica. In none of these seven cases was there any evidence of cancer. Quite a number of the cases examined showed a subacidity. The cases coming under my observation have not, however, been held under medical treatment long enough to reach any definite conclusion from them, but I feel that the diminution in the acidity should not, in any way, influence a man to make a diagnosis of cancer, nor should the maintenance of a normal acidity preclude the fact that a carcinoma is developing, as I have noted this condition many times. In any event, where the symptoms are imperative enough operative interference is indicated.

BLOOD PRESSURE IN ECLAMPSIA*

WALTER E. WELZ, M. D.
Detroit, Mich.

DISCUSSION

J. H. Carstens, Detroit: I just want to say a word. I think we owe thanks to Dr. Welz for the great work he has been doing in this line. This question of blood pressure is a very important one, indeed, and, in his resume, he really covers the whole ground. In making the ordinary examination of the urine, you sometimes do not find albumen in it, and let it go at that, and think the woman is all right, while the blood pressure will show you that the woman is, perhaps, in a very serious condition. You can gauge her condition better, and, really, the

*For paper see Jour. for November, 1911, p. 531.

blood pressure is so much easier and simpler than something else that everybody ought to make use of it. Of course, I know a woman will not come to you to have that blood pressure taken, any more than she will come to you to have the urine examined, but you ought to try all the time and advocate it. During the convulsions the blood pressure will show you the probable prognosis of the attack, so that it is a very important thing, indeed, and it is a newer thing, and it is something that ought to be talked about and discussed continually. I want to congratulate Dr. Welz on bringing this before us.

C. S. COPE, Detroit: I wish to say something in regard to taking the blood pressure as ordinarily done. The patient comes in and you lay him on the table and take the blood pressure, and say, that is his blood pressure. Now then, where is that pressure—what makes it? Is it due to the strong action of the heart? You say, that means the heart is strong. Abrams says the way to do that is to take the blood pressure ordinarily, then give the patient Amyl nitrite and relax it, and take it again, and then you find the normal blood pressure, because you release the tension of the vessels, and this gives you the power of the heart. Otherwise you are acting on the wrong basis.

W. E. WELZ, Detroit, Closing: I have little more to say than to urge the use of the sphygmomanometer in pregnancy. There are several drugs besides veratrum which tend to relieve high blood pressure. The nitrites are suitable for this purpose. Nitroglycerine, sodium nitrite, and erythrol tetranitrite have been used successfully. When these drugs are used the effect on the blood pressure is noticed quickly—possibly more quickly than after veratrum. I only mentioned veratrum here because it has been used in a series of cases and the result seemed to indicate that it was of some value in reducing the pressure which, when relieved, seems to alleviate all the symptoms of eclampsia.The use of the other drugs is just as important, and the application of the wet pack and other measures cannot be given up for the use of drugs alone. Elimination must be stimulated so as to remove the toxin, and permit the metabolic processes to proceed normally.

C. S. COPE, Detroit: I don't want to leave the impression that I decried the action of veratrum viride, because that is a sheet anchor, but in all cases when taking the blood pressure the heart is considered strong in the ordinary blood pressure test, when, if you give amyl nitrite and then take the blood pressure you will find that this resistance to the heart was in the vessels themselves and you had a weak heart which would make it dangerous to give the ordinary sedatives, but in the ordinary taking of the blood pressure this would not have been evident.

COUNTY SOCIETY NEWS

BAY

The special subject for the meeting of September 5th was "Medical Inspection of Schools." Dr. M. Gallagher read a report from the committee appointed to investigate this matter, and outlined a plan of procedure. After a thorough discussion, the society voted to stand back of the committee in arranging with the Board of Education a plan of medical inspection of the school children.

The following motion was made by Dr. Gallagher and carried:

"Moved that the President of this Society appoint a special committee of three to meet the legislative body of the Michigan State Medical Society for the purpose of drafting a state ordinance, making medical inspection of schools compulsory in all cities with a population of 5,000 or over."

The Society voted to defray the expenses of the Secretary to the meeting of the County Secretaries' Association, to be held in Detroit, September 26th.

The meeting of October 9th was well attended. It was an encouragement to the Program committee, officers and many members of the society to see a good attendance present.

The committee on Medical Inspection of Schools made a further report, and the society instructed them to make a proposition to the Board of Education, and make complete arrangements for the work.

Dr. C. A. Traphagen read a paper:

Virtues of Intestinal Antiseptics

Abstract. Owing to the difficulties of direct observation, presumptive evidence as well as direct proof must be considered. Two questions present themselves.

1. Is there any drug of sufficient power to influence, in non-toxic doses, the growth of bacteria in a volume of fluid equal to that of the bowel?

2. Will such a drug, if it exists, remain in the bowel long enough to exert its effect?

The average content of the adult bowel being 6,000 c. c., we must be content with partial sterilization, complete sterilization requiring toxic doses. Many drugs without question retard bacterial growth in the intestines.

As to the second question, many drugs, creosote, for example, are absorbed too rapidly to exert a germicidal effect on the lower bowel.

Experiments by Sanderson and Hoffman demonstrated that by the use of acetozone the number of bacteria in the intestinal tract was greatly reduced.

As to choice of antiseptics, the variability in solubility and absorption must be considered. Beta napthol, as an illustration, is slowly souble and would be expected to linger some time in the bowel. A solution of 1-10,000, corresponding to a dose of three to nine grains, effectually prevents bacterial growth.

Other recognized antiseptics are copper sulphate, ¼-1 gr.; chlorine water, 1 oz.; creosote, 1-10 m.; salicylic acid, 5-15 gr.; phenyl salicylate, resorcinol, 2-4 gr.; thymol, 30 gr. per day. Bismuth salicylate, 5-15 gr.

The meeting of October 24th was held at the National Guard Armory, at 8:30 p. m. Twenty-six members were present in spite of the fact that there was no dinner in connection with the meeting. The reception room in the Armory made an ideal meeting place, and served to remind us of the fact that our society ought to have a permanent home.

The question of the contract for doing the work for the poor of the county was taken up and discussed. A motion was carried that the president appoint a committee to submit a bid to the Poor Commission.

The paper of the evening was read by Dr. W. T. Dodge, Surgeon to Mercy Hospital, Big Rapids, on Vaccine Therapy, which will be published in an early number of the JOURNAL.

H. N. BRADLEY, *Secretary.*

CHIPPEWA

A regular meeting of the Chippewa County Medical Society was held at the Park Hotel. Fifteen members were present. Dr. MacDonald occupied the chair for what will probably be the last time, as the Doctor is to leave the Soo..

Dr. Yale presented a clinical case, a peculiar auto-toxemia. The case was freely discussed. Dr. Griffin read a paper on Home Treatment of Tuberculosis and Dr. McDonald read a paper on Intestinal Toxemia. Both papers were freely discussed.

Owing to the fact that a spread was waiting in the dining room, a motion to adjourn was quickly and unamiously carried. The banquet was a pleasant surprise, given by the members in honor of Dr. MacDonald who was also presented with a gold-headed cane in token of the good will and esteem of his brother practitioners. Dr. MacDonald has practiced medicine in the Soo nearly twenty years, his patients swear by him, and he has a large circle of friends who will greatly miss him.

I. V. YALE, *Secretary.*

EATON

The annual meeting of Eaton County Medical Society was held at the Pension Office rooms, Charlotte, Thursday, Oct. 26, 1911.

An instructive and interesting paper was read by Dr. L. J. Hirschman, of Detroit.

The following officers were elected for the year 1912:

Pres., J. B. Bradley, Eaton Rapids .
Vice-Pres., F. J. Knight, Charlotte.
Sec., A. H. Burleson, Olivet.
Delegate, C. B. Wasson, Bellevue.
Alternate, C. A. Stimson, Eaton Rapids.
Member Medico-Legal Committee, A. W. Adams, Bellevue.

A. H. BURLESON, *Secretary.*

GENESEE

The annual meeting of the Genesee County Medical Society was held October 31, 1911, at 2 P. M., in the Flint Council Chamber.

The annual reports of the officers were well received and placed on file.

The president, secretary and the oldest director in point of service were appointed as a committee to formulate definite plans to divide the society into groups for the monthly or bi-monthly meetings, and to arrange the programs.

Dr. Henry L. Treukle of Oak Grove Hospital, was elected to membership.

Dr. Noah Bates, who has been president of the society for three years, was re-elected unanimously by rising vote. *Vice-President*, M. S. Knapp; *Secretary*, C. P. Clark; *Treasurer*, F. B. Miner. *To fill vacancy on Board Directors*, E. D. Rice. *Delegates to State Meeting*, J. G. R. Manwaring and H. W. Graham; *Alternates*, F. B. Miner, A. Wheelock. *Member of Medico-Legal Committee*, R. H. Niles.

The society voted to recommend to the Board of Health the appointment of H. Cook, M. W. Clift, Don Knapp, M. S. Knapp and J. C. Benson as a Medical Milk Commission.

The society was addressed by Rev. Lippincott, on the plans of the Hospital Board for the new Tuberculosis Annex to Hurley Hospital.

Drs. C. B. Burr, J. G. R. Manwaring and R. H. Murray were appointed as a committee to confer with the Hospital Board.

Dr. Richard R. Smith of Grand Rapids, gave a very interesting paper on Enteroptosis in Children, illustrated with lantern views.

Following the meeting the society adjourned to the Flint Country Club where the Flint physicians entertained the county physicians to an elaborate dinner.

Dr. C. B. Burr, our ex-president of the State society, was toastmaster and many toasts were responded to.

C. P. CLARK, *Secretary.*

GRAND TRAVERSE

The annual meeting of the Grand Traverse-Leelanaw County Medical Society was held on the evening of Nov. 7, in Dr. Minor's office. Ten members were present. Dr. F. H. Carrow was present as a guest.

Dr. J. A. J. Hall was admitted to membership. Dr. J. M. Wilhelm gave an account of the state medical meeting.

The following officers were elected for the ensuing year: *President*, Dr. J. D. Munson; *Vice-President*, Dr. F. Holdsworth; *Sec.-Treas.*, R. E. Wells. Dr. J. B. Martin was re-elected as county member of the Medico-Legal Committee. Dr. Carrow invited the Society to meet at his home for the next meeting. The invitation was accepted. Dr. Minor, the retiring President, then invited the members to the Little Tavern where an oyster supper was enjoyed.

R. E. WELLS, *Secretary.*

HILLSDALE

The Hillsdale County Medical Society held its annual meeting in Hillsdale, Monday, Oct. 29, 1911. The following program was presented:

Epidemic Poliomyelitis. Dr. B. F. Green, Hillsdale.

Tuberculosis. Dr. S. B. Frankhauser, Hillsdale.

President's Address. The Use and Abuse of Drugs. Dr. E. A. Martindale, Hillsdale.

The following resolutions on the death of Dr. Malcom Graham, Vice President of the Society, were presented and adopted:

WHEREAS, Hillsdale County Medical Society has, by death, lost its Vice-President, Dr. Malcom E. Graham of Jonesville.

BE IT RESOLVED, that in the death of Doctor Graham this Society has lost one of its valued members, and the medical profession an energetic enthusiastic student of human ills and their cure.

BE IT RESOLVED FURTHER, that the Secretary convey to the widow and family of the deceased, our fullest sympathy and condolence, and that a copy of these resolutions be entered on the records of the Society.

The election of officers resulted as follows:

President, W. R. Ditmars, North Adams.

Vice-President, D. W. Fenton, Reading.

Secy-Treas., B. F. Green, Hillsdale.

The names of four applicants for membership were presented and voted upon favorably.

It was voted that the president appoint a committee from members of the Society, to help organize a county "medical milk commission."

B. F. GREEN, *Secretary.*

HURON

The Huron County Medical Society held its annual meeting and election of officers, October 9th, at Bad Axe. The following were elected to the various offices: D. J. Monroe, *President;* C. B. Morden, *Vice-President;* D. Conboy, *Secretary-Treasurer;* S. B. Young, *Delegate;* A. E. W. Yale, *Alternate.* Slides of the Spirochaeta Pallida under different microscopical powers were shown.

D. CONBOY, *Secretary.*

INGHAM

The Ingham County Medical Society met at the home of Dr. an Mrs. O. H. Freeland , Mason, October 11, for its tenth annual meeting. The society numbers about 55 members, and 30

of these, with the wives of some of them, made a party of 54, who spent a very enjoyable evening. The president, Dr. O. H. Freeland, called the meeting to order and presided at the business session. The officers elected for the ensuing year, are as follows: *President*, Dr. Bret Nottingham, Lansing; *Vice-President*, Dr. Samuel Osborn, Lansing; *Secretary and Treasurer*, Dr. M. L. Holm, Lansing; *Delegate*, Dr. G. B. Baugh; *Alternate*, Dr. B. Davey.

After a short talk by the retiring president, Dr. Freeland, a paper was read by Dr. Henry J. VanDenberg of Grand Rapids, which he had prepared for the occasion. Miss Anna Culver sang "Happy Days" with Miss Gladys Lasenby as pianist, and Dr. S. H. Culver playing a violin obligato.

At 5:30 o'clock a banquet was served in the parlors of the M. E. church. After the dinner with Dr. S. H. Culver as toastmaster, the following toasts were responded to: Our Society; Its Inception and Growth, Dr. C. L. Barber, Lansing; The Doctor As a Specialist, Dr. R. E. Miller, Lansing; Picnics, Dr. Samuel Osborn, Lansing; What the State Does for the Medical Profession and the People, Dr. M. L. Holm, Lansing; The Doctor at Home, Mrs. C. L. Barber, Lansing.

"Autos" was to have been responded to by Dr. C. E. Green of Leslie, but he was obliged to leave just before his subject was announced. The meeting was both pleasant and instructive, a success in every way.

M. L. Holm, *Secretary.*

KALAMAZOO ACADEMY OF MEDICINE

The October 10 meeting was well attended, though mostly by local members and visitors. Dr. Crosby presided. No business was transacted except to call a meeting of the Board of Directors.

The Program was:

Bad Neuheim

By Dr. Walter den Bleyker

(Abstract)

Bad Neuheim, as a noted spring of Germany, dates back to Roman times. In the twelfth century the springs were used for their salt production, and it was as late as 1870 when the bath treatment for bodily disorders was first developed. In this section of Germany the climate is delightful and this enhances the beauty of the parks, the hills, the woods and streams which abound at Neuheim. This little municipality owns the baths and exacts a toll of 20 marks from each patient who applies for treatment. This money goes to keep up the beauty of the place and provide music and recreation for the patients.

It was in 1850 that the baths were first advocated for the treatment of heart diseases. At first this was rather crude, but a year or two later it became more scientifically administered and more has been written about the treatment since then. There are seven springs at Neuheim, but only three are used for therapeutic purposes—Nos. 7, 12, and 14. Over $5,000,000 has been spent for bathing facilities. These three springs are bored from 400 to 700 feet deep. They are warm springs, and the temperature varies in the different ones, one providing water about 90° F. They all contain much carbon dioxide in solution, and this is given off during the exposure to air in the bath. There are also many other mineral salts in the water.

On reaching Neuheim the patient selects his physician, who makes the examinations as to his condition and then gives him a bath prescription according to his needs. Usually this consists of one bath a day for two days, then omit one day. The temperature of the bath is changed by using different springs. At first it is warm and then the temperature is gradually reduced. Bath No. 7 is most highly charged with carbon dioxide. The duration of the bath is usually from 8 to 15 minutes. The "Spruedel Bad" is the last one given and the most severe. It is a flowing bath. A series of 20 to 30 baths are given during four to six weeks, after which a rest of four weeks is advised, and then comes an after treatment of two to four weeks.

It is difficult to know why patients respond so well to this treatment, and yet it is almost universally agreed, by those who take them, that they are benefitted. The blood pressure is not reduced but is sometimes raised; elimination seems to be improved. The doctors at Neuheim do not want cases with broken compensation, although they do not absolutely refuse to treat them.

Drugs are used when indicated. Diuretin is often used for elimination; digitalis is also employed, as is iodin.

Discussion

Dr. A. Hochstein: English speaking peoples seem to be skeptical about the benefits of the treatment at Neuheim. Many prominent American authorities, however, endorse it very

highly. It does seem to improve the conditions in those suffering with heart disease. It depletes the venous system and opens the arterial, especially the coronary arteries, thus giving better nourishment to the heart muscle.

Thermal baths have been used by the Germans in very early times for treatment of injuries and wounds, and in mediæval times to overcome the effects of debauchery. In modern times they have been put on a scientific basis in the treatment of disease. Those at Kissingen noted for treatment of kidney disease; Ems for throat, and Neuheim for heart troubles.

The Germans have a great love for baths. It is to them a recreation, like resorting at a lake is to Americans. The women, especially, seem to crave them, and are disappointed if their physician does not recommend some such treatment at times.

Dr B. A. Shepard asked what the patients are allowed to eat.

Dr. Jackson asked what the patients are allowed to drink.

Dr. Crosby was at Bad Neuheim two years ago and related his experiences there. He could not explain why people were improved, but believed that the rest and recreation have much to do with it.

Dr. den Bleyker, in closing, said that the diet is very much like that prescribed in this country; a breakfast of rolls, honey and chocolate; noon lunch includes fish and chicken, but no red meats are allowed; the evening meal is similar to the breakfast. Vegetables which are gas-producing are forbidden. For coffee they have a caffein-free coffee; beer is advised against. In place of ordinary cigars they have a nicotine-free cigar.

A Discussion of Feeble-mindedness

By C. B. Fulkerson

(Abstract)

Seguin, Bishop of Mira, and Etard were pioneers in the study of the feeble minded.

Classification as to type or pathology not definite; Binet test classifies the mentally deficients psychologically, which is indispensable data for education of the backward child.

Feeble mindedness is hereditary. The Mendelian hypothesis explains a great number of coincidences that occur in familial feeble mindedness.

Case of E. W., female, who is physically 23 years of age but mental tests are those of a 10 year old child. A male ancestor was responsible for an illegitimate feeble minded child of a feeble minded girl. There were about 1000 individuals of this birth, about 500 of whom were feeble minded. This same male ancestor married a normal girl, from whom union 450 individuals developed, none of whom were feeble minded.

Binet test enables us to discover a mental defect early and improve the short number of years in education prior to the mature age of 15 or 16 years. This education of development does not prevent the transmission of neurological taint, but does develop the mental caliber of the individual. In higher degrees of backward pupils a good average citizen may result.

More complete custodial care, earlier detection of feeble mindedness, greater number of special classes for individual instruction in our schools, greater number of educational institutions for feeble minded, the judicial application of desexualization of the feeble minded, all of these are indispensible to the prevention and stamping out out of this neurological taint.

Discussion

W. A. Stone said that we needed an institution to act as custodian as well as for teaching this class of cases. He stated that it was almost impossible to get these deficients cared for by the State on account of inadequate conveniences or State law, and then cited one institution in Pennsylvania where all classes of mentally deranged and deficient are cared for, and without the usual amount of difficulty in gaining admission.

The Doctor praised Dr. Fulkerson for his efficient work in Kalamazoo Public Schools in this department.

Dr. L. H. Harvey, of the Western Normal School, went more or less into detail with reference to heredity, but emphasizing the point that acquired characteristics are not inherited, but only those which are originally present in the egg and the sperm. By mutation only can anything come in. Dr. Harvey expressed much interest and commendation for Dr. Fulkerson's work in the schools.

Dr. Bernstein gave report of several interesting papers which were read at the recent meeting of the American Academy of Ophthalmology and Oto-Laryngology.

LENAWEE

The Lenawee County Medical Society met at Bixby Hospital, Adrian, Tuesday afternoon, November 14, with 15 members in attendance. Dr. Wilfrid Haughey, State Secretary, was present and addressed the society upon matters of general interest, our defense plan, our JOURNAL and the work of the House of Delegates at Detroit.

There were several very interesting case reports, one especially, by Dr. Sutton of Clayton, a case of typhoid fever with unusual complications.

The society will hold its annual meeting and banquet the second Tuesday in December and hopes for an especially large attendance.

MONROE

The Monroe County Medical Society held its sixteenth annual meeting at Monroe, on Oct. 19th, 1911. There were present fourteen members.

Dr. Lewis F. Smead of Toledo, read a most interesting and instructive paper on "The Diagnosis and Treatment of Extra Uterine Pregnancy from the standpoint of the general practitioner." I would recommend this to any other county society that might be able to secure his attention.

Dr. McCallum gave a complete history of a case of "Pyelonephritis," also of the post-mortem that followed, which made it very instructive to the members.

A Fee Bill was also adopted by the Society at this meeting.

Our meetings are being better attended every quarter and more interest is being taken.

CHAS. T. SOUTHWORTH, *Secretary.*

MONTCALM

WHEREAS, Divine Providence has removed from our midst Dr. W. H. Belknap, one of our charter members, a valued and upright character of high attainments and very progressive in our profession, therefore

BE IT RESOLVED by this society that we recognize his sterling worth as an able physician, and true gentleman and friend. We in committee assembled desire that his example be perpetuated by having these resolutions recorded on our Journal and

BE IT FURTHER RESOLVED that a copy be sent to his family and to the JOURNAL of the Michigan State Medical Society.

(Signed) H. L. BOWER,
J. ODELL NELSON,
M. E. DANFORTH,
Committee.

Adopted Oct. 12, 1911, by Montcalm Society.

MUSKEGON-OCEANA

Regular meeting of the Muskegon-Oceana County Medical Society was held at Whitehall, Mich., Friday evening, Oct. 13th, 1911, as the guests of Dr. L. W. Keys and Dr. C. F. Smith.

Members present: Drs. Geo. S. Williams, C. F. Smith, A. A. Smith, Jacob Oosting, J. M. Stone, P. A. Quick, W. P. Gamber, I. M. J. Hotvedt, J. T. Cramer, G. J. Hartman, W. A. Campbell, J. Vander Laan, W. L. Griffin, J. D. Buskirk, J. M. Vander Ven, F. B. Marshall, L. W. Keyes and V. A. Chapman; Dr. Parker, of Hackley Hospital, as visitor.

Meeting called to order at 8:00 P. M. by President Geo. S. Williams, after dinner at 6:30 o'clock.

Dr. Keys presented a clinical case of skin disease for diagnosis, which was generally discussed.

Dr. Cramer presented the matter of the medical Milk Exhibit, and stated that the promoters of this exhibit asked for a financial contribution from this Society to aid in this exhibit. After several unseconded motions were made, and discussion of the matter, it was moved, seconded and carried that this Society contribute Five Dollars to this enterprise.

A communication from the Young Men's Club was read. This requested the aid of this society in securing suitable addresses on Sexual Hygiene to the Young Men's Club. Dr. Marshall moved that a committee of three be appointed to attend to this matter. Dr. Vander Laan amended and Dr. Griffin seconded. Dr. Marshall accepted amendment. Those appointed on this committee were Drs. J. Vander Laan, F. B. Marshall, and V. A. Chapman. Dr. Vander Laan amended that the Board of Education of Muskegon be informed of this matter and asked to aid. Dr. Griffin seconded this motion as amended. Carried.

Dr. Keyes read a paper reporting a case of pellagra. Dr. Hotvedt moved that the paper be sent to the State JOURNAL for publication. Seconded and carried.

Dr. Chas. F. Smith gave a talk on medical and surgical work in the tropics as experienced

in medical military work in the Philippines, and exhibited weapons of war used by the native Phillippinos.

V. A. CHAPMAN, *Secretary.*

SCHOOLCRAFT

Dr. Gates, formerly of Cusine, has removed to Mt. Pleasant, Mich.

Dr. Andrew Nelson of Manistique, attended the recent convention of Soo Line Surgeons, held in Chicago.

Dr. and Mrs. Frank Rainie have returned to Manistique, after an extended tour through the west, including a twenty day's camping trip in the Yellowstone National Park.

The annual meeting of the Schoolcraft County Medical Society was held in Manistique, October 25, with all members present. The following officers were elected for the ensuing year:

President, Dr. Frank Rainie, Manistique.
Vice-President, Dr. F. E. Cameron, Blaney.
Sec.-Treas., Dr. G. M. Livingston, Manistique.
Medico-Legal Com., Dr. D.W. Roos, Manistique
Delegate to Muskegon Meeting, Dr. G. M. Livingston.
Alternate, Dr. W. J. Saunders, Manistique.

G. M. LIVINGSTON, *Secretary.*

TRI-COUNTY

At the regular meeting of the Tri-County Medical Society, held Nov. 2, '11, the following officers were elected for the ensuing year: *Pres.*, Dr. R. Brodeur, Cadillac; *Vice-Pres.*, Dr. W. R. Wallace, Manton; *Sec.*, Dr. Rudolph J. E. Oden, Cadillac; *Treas.*, Dr. W. J. Smith, Cadillac; *Board of Directors*, Drs. C. E. Miller, S. C. Moore, Cadillac, and V. T. Huntly, Manton; *Program Com.*, Drs. Rudolph J. E. Oden, G. D. Miller, and O. L. Ricker, all of Cadillac; *Delegate to State Meeting*, Dr. C. E. Miller, and Dr. Rudolph Oden, *Alternate; Finance Com.*, Drs. J. M. Wardell, D. Ralston, B. H. McMullen, Cadillac.

R. J. E. ODEN, *Secretary.*

TUSCOLA

The eighth annual meeting of the Tuscola County Medical Society, was held at Hotel Montague, Caro, Michigan, October 9, 1911. Sixteen members were present.

The Board of Trustees was instructed to renew the contract for the care of the indigent sick with the Supervisors for another year.

A committee was appointed to amend the fee bill and report at the next meeting.

The election of officers resulted as follows: *President*, F. P. Bender, Caro; *Vice-President*, J. MacKenzie, Reese; *Secy-Treas.*, W. C. Garvin, Millington; *Trustee for 3 years*, C. W. Clark, Caro; *Member Medico- Legal Committee*, A. L. Seeley, Mayville.

The next meeting will be held at Caro, Dec. 11, 1911.

W. C. GARVIN, *Secretary.*

WAYNE

At the meeting of the Surgical Section on October 9th, 1911, Doctor F. B. Walker read a paper entitled "The Treatment of Gunshot Wounds of the Abdomen, With the Report of Seven Cases."

In the absence of the chairman, upon motion of Doctor J. H. Carstens, Doctor James Cleland, Jr., was chosen as temporary chairman.

Doctor A. N. Collins, chairman of the committee upon Automobile Insignia, brought up the subject of Automobile Insignia again, but upon being reminded that the subject was one for a General Meeting instead of a Section Meeting, by Doctor E. B. Smith, and, at the latter's suggestion, the matter was laid upon the table.

Seventy-eight members were present.

Treatment of Gunshot Wounds of the Abdomen With Report of Seven Cases

By Dr. Frank B. Walker.

(Abstract)

"The author believes that civilian surgery should stand on its own footing and not follow the practice of military surgery in gunshot wounds of the abdomen.

"Inasmuch as penetrating wounds of the abdomen and intestinal perforations are practically synonymous the former should be treated by immediate operation, the same as known rupture of the gall bladder, or perforating ulcer of the stomach or bowel. Statistics were presented showing the lessened mortality of those operated upon over those treated expectantly, and seven cases with six recoveries were reported by the author. The treatment of a gunshot wound should begin as soon as it is made by applying a protective dressing. The wound and the direction of the missile should be examined. If it be penetrating, a laparotomy should be performed, hemorrhage controlled and injuries repaired.

"Drainage is advisable in nearly all cases."

Discussion

Doctor T. A. McGraw, in opening the discussion, said he quite agreed with all the orator of the evening had said.

He urged that all gunshot wounds of the abdomen be operated upon as soon as possible, provided a competent operator and suitable place for operation were at hand. He spoke of the condition of the abdominal contents, i. e., their emptiness or fullness, as bearing upon the probability of a less or greater amount of extravasation of the contents, thus diminishing or increasing the probable infection.

He laid especial stress upon careful toilet at the time of operation and advised against too elaborate examination of intestines for remote possibilities of perforation—a small perforation without escaping contents will do no harm. He spoke further about the advisability of the Fowler position, advised against the taking of food and urged the administration of small doses of opium to splint, so to speak, the thirty feet of germ-bearing intestinal tract.

Dr. E. B. Smith said the nature of a gunshot wound depends upon several conditions:

FIRST—The distance from the firing arm to the person injured.

SECOND—The angle at which the bullet enters the abdomen.

THIRD—The tissues through which it passes.

FOURTH—The size of the bullet.

The diagnosis of a wound depends upon a number of well defined symptoms and signs, but no one or two signs should be taken to make a positive diagnosis.

No one should attempt the surgical work of caring for a gunshot wound of the abdomen unless he is fully equipped to take care of any emergency that may arise from an injury of this nature. Especially should he be in a position to perform a resection, an end-to-end anastomosis, or repair of any portion of the intestinal tract, and be able to do the work in a reasonably short time. This means that he should have assistants at hand who are ready to give the aid required; the instruments and material for doing the work, and methods to sustain the patient not only at the time, but following the operation.

In other words, this class of patients should fall into the hands of a surgeon, whose technical knowledge, whose experimental work and whose practical work, have been of sufficient extent to qualify him to make a reasonably positive diagnosis, and to fit him to do the work in hand.

Doctors F. W. Robbins, A. N. Collins, Ernest C. Lee, George C. Chene, William J. Cassidy and James D. Matthews also discussed the paper, Doctor Cassidy calling attention to and warning against the still all too prevalent custom of probing after the ball, thereby aiding the possible spread of infection rather than preventng it.

At the meeting of the Medical Section on October 16th, 1911, Doctor John T. Watkins read a paper entitled "Headache, Its causes and Treatment."

In the absence of the secretary, the chairman apponited Doctor C. E. Simpson to act until the arrival of Doctor Clark.

Apropos of the choosing of a suitable automobile insignia by the Society, Doctor B. R. Shurley read a letter and telegram in answer to a letter he had addressed to the American Red Cross Society with National Headquarters at Washington, D. C.

In substance the answer is embodied in the following: "The use of the Greek Red Cross or any insignia colored in imitation of it, except by this Society and Medical Service of the Army and Navy, is prohibited by law, and we have no power to authorize its use by others."

A copy of the law as amended by act of Congress accompanied the letter.

Doctor A. N. Collins, chairman, presented a new design for automobile insignia, but was asked by the chairman to please bring it before a General Meeting, since the Section Meetings were not expected to transact general business.

One hundred and ten members were present.

Headache, Its Causes and Treatment.

By Doctor John T. Watkins.

(Abstract)

The purpose of the paper is two-fiold, viz., to recite and classify the more common causes, and give a brief account of the most efficient means of relieving headache. Second, to encourage and emphasize the importance of a more thorough investigation of the symptoms.

We must realize at once that we are dealing with but one symptom and that the pain is only the cry of a weary brain calling for a careful investigation of the bodily functions, one or more of which is not acting in harmony with the whole.

Headaches may be conveniently divided into two great classes, viz., organic and functional.

In the first class are included all headaches resulting from organic diseases of the brain or its investing membranes, and in the second class all headaches depending upon causes, either organic or functional, which reside without the brain or its membranes.

The more important causes of organic cephalagias are tumors, including all neoplasms, acute and chronic abscesses (syphilis), arterio-sclerosis, meningitis, encephalitis, epilepsy, etc. Several of the psychoses exhibit headache as a symptom of varying prominence and the cause may or may not be organic, depending upon the condition present.

The causes of functional headaches may be conveniently grouped under the following headings;

1. Reflex, including ocular, nasal and accessory sinus (especially frontal), nasopharyngeal, gastro-intestinal, pelvic, auditory, renal causes, etc.

2. Auto-toxic, including fevers, acute infections, rheumatism, gout, lithemia, toxic states of diabetes, nephritis, uremia, toxemia of pregnancy, early syphilis, rapidly fatal tuberculosis, meningitis before any gross marked changes have occurred, etc., etc.

3. Hemic causes (closely allied to and really a part of auto-toxic), including anemia and congestion, causative agents, as injuries, sunstroke or isolation, etc.

4. Toxic causes, including alcohol, tobacco, lead, etc.

5. Neuropathic causes, including neurasthenia, hysteria, neuritis, domestic infelicity, etc.

6. Headaches caused by external pressure as produced by tumors, old periosteal thickening, depressed fractures, etc., of the cranial bones.

Causes of different sorts may be interacting in one case. All cases demand and should be given a thorough investigation and the diagnosis arrived at by elimination of causes.

The treatment will, in a large measure, suggest itself when the cause is known. Our aim should be two-fold, first, relieve the immediate pain, second, search out and relieve the cause.

The continued and too lax use of analgesics of the coal tar series should be deprecated. They are useful at times but should not be put into the patient's hands to use as he sees fit. The danger of drug addiction should be kept constantly in mind in treating these cases.

Analgesics which are useful at times are phenacetin, acetanilid, aspirin, antipyrin, chloral, etc.

Morphine may be required in some instances. Fl. ext. of ergot in full doses is useful often in throbbing headaches accompanied by flushed face.

Where high tension exists the bromides, nitro-glycerine and nitrite of sodium are valuable. Blood letting may be required.

Hydrotherapy, hot and cold, are invaluable and should be employed when possible to the exclusion of drugs.

Hygienic conditions, diet, amusement hours, etc., all require attention.

Discussion

Dr. McKean said: "In my experience with high blood pressure, severe headaches are exceptional unless there is complicating nephritis.

"Blood pressure in nephritis, during the attacks, is not perceptibly raised. In fact, in some it is lowered.

"I had thought I might get some information relative to the relief of these headaches by the raising or the lowering of pressure. I was forced to conclude, however, at least in the patients that I studied, that the slight rise or fall at the time of the headache had very little if anything to do with it.

Naturally one would think that headaches would be most prevalent in the aged yet the fact is, in the aged in whom pressure, as a rule, is so much higher on account of the sclerotic changes in the vessels, etc., headaches are much less common than during adolescence and middle life.

Doctor J. E. Gleason said headache is frequently an ocular reflex symptom, and it is important to remember that patients with normal or almost normal distant vision are those in whom there are most often present the symptoms of eye strain. Hyperops have normal vision both for distance and near use, but such normal vision is obtained only by the constant and excessive use of the focusing muscle. Cases of astigmatism of low degree are much more productive of reflex disturbances than those of high degree. In the former the two prinipal foci are near together and the constant struggle to fuse them produces the symptoms. In astigmatism of high degree the foci are so far apart and the vision so interfered with that no unconscious effort is exerted to bring them together.

Patients requiring glasses should receive about as much care in the adjustment of frames as in prescribing the correct lenses. A faulty pupillary distance of the lenses or the tilting of an astigmatic correction will nullify the most careful refractive prescription. No refractive examination is complete which does not look into the static condition of the extrinsic eye muscle, unbalance of which often produces more unpleasant symptoms than the intrinsic refractive error.

Nasal headache, aside from the pressure symptoms of secretion under tension in frontal, ethmoidal or sphenoidal sinusitis, is most frequently the result of pressure between the septum and middle tubinate, the result of faulty position of the former or a chronic hypertrophy of the mucosa of the latter. The frequent unlateral character of the pain is the only distinguishing feature.

Headache is the result of the absorption of toxins from cryptic tonsils much more frequently than is commonly realized. It is the small benign looking tonsil of an adult, producing few local symptoms, which, in the contraction of the capsule incident to atrophy of the lymphoid elements, suffers constriction of the orifices of the crypts and consequent retention of decomposing matter. Such crypts, although protected against direct infection by a reformed mucosa, are not proof against the absorption of toxins with all the deleterious results.

Doctor Haas, in his discussion, spoke of the possible influence that the glands with an internal secretion may have in the causation of headache, mentioning the relationship of the ovary with the thyroid and hypophysis as an example.

Doctor Inglis said: "Doctor Watkins' scholarly paper brings before us impressively, the very wide range in the causation of headaches and migraine.

"When we attempt to formulate what goes on in the head and back (for many backaches are the same thing in kind as headaches) we come, I think, to this: Sensory nerve elements outside the cranium or inside, probably mainly in the meninges, set up a cry—their metabolism is disturbed—too little or too much toxic blood disturbs their normal metabolism or, being exhausted, they cannot, themselves, at once restore metabolism.

"As to cerebral congestion, there is an acute congestion in which there is a pressure of bright arterial blood, but chronic headaches from congestion usually mean a lot of venous blood which is not being driven forward. Now venous blood nourishes the neurons quite as badly as too little blood—hence, both anemic headaches and venous congestive headaches do respond to means which increase arterial flow to the brain.

"Digitalis alone or with iron and Arsenic serves well.

"Similarly, in the headaches which occur with rigid and hardened arteries in the old, as the rigidity cannot be removed, the therapeutic problem is to force more arterial blood through the lessened caliber of the tubes—this requires careful steering, as the arteries are also brittle.

"High blood pressure in young years, being in large degree a matter of spasm of the muscular coats of the arteries, the therapeutic problem is to relax spasm. Many headaches so caused respond to sweet spirits of nitre (probably the best "Nitrite" for lasting effect) and bromides.

"In the wide field of headaches caused by some distant reflex irritation aside from removal of cause, these two often do service by lessening reflex irritability as well as vaso-motor spasm.

"In headaches accompanied by vaso-motor relaxation or those in which there occur marked alterations of vaso-motor relaxation and spasm in different areas of the body, ergot stands at the head. Ergot, in large doses, acts as a vaso constrictor—in lesser doses—longer continued — it acts as a vaso-motor tonic or regulator. The search for reflex causes is not rightly done until we have searched everywhere, but I would emphasize this: a man who squints badly gets no headaches from his squint, but it is the lesser deviations. When I send a headache patient to an oculist I want to be sure that the oculist gets after the little things.

"Intranasal troubles, unfortunately, are usually painless but they cause some very severe reflex neuroses. A man who introduced himself by saying "Doc, I have taken 4800 pills and I'm not a dammed bit better," had atrocious backache-headaches with uncontrollable vomiting—recurring much like migraine. When an unsuspected ulcer in his nose was healed the cure was complete and immediate."

Doctors Chaney, Livingstone, Polozker, B. R. Shurly, Carstens, Flinterman, J. E. Davis,

J. V. White and Applebee also discussed the paper.

At the meeting of the Surgical Section on October 23, 1911, Dr. C. W. Suckling and Mr. William Billington, both gentlemen from Birmingham, England, spoke upon Movable Kidney, the former from the standpoint of a neurologist and the latter as a surgeon. Both gentlemen spoke from notes without reading any fixed or set paper.

The discussion was unusually clear and to the point. The concensus of opinion was that the essayists of the evening were sincere in the belief that dropped kidney was the cause, or accompaniment, of a large number of disorders, and that proper surgical treatment would relieve most of them. President Walker introduced the speakers and, in so doing, expressed the hope that the members present would listen with unbiased minds as becomes a scientific body such as this Society.

Because of the absence of the Secretary, Dr. G. H. Parmelee, Dr. R. L. Clark acted in that capacity.

One hundred and seventy-eight members were present.

Movable Kidney

By Dr. C. W. Suckling and Mr. William Billington

(Abstract).

"I have found that movable kidney is a common cause of insanity, neurasthenia and other disorders of the nervous system, and it is quite evident to me, from the living pathology, that the movable kidney becomes a diseased organ."

Suckling and Billington like the term "dropped kidney" because it reminds the examiner that to be sure about the diagnosis, the patient should be examined in the erect position. They warn against confounding the term "Nephroptosis" with general enteroptosis of the abdominal organs, called Glenard's disease. Glenard's disease is a very rare condition, whereas mobility of one or both kindeys is very common.

They examine their patients both standing and lying. The term "floating kidney" is not satisfactory because, of course, the kidney does not float, either in the recumbent or in the erect position; it means merely a very great degree of mobility. What is meant by movable kidney? A kidney is movable which can be grasped by the hand, felt below the ribs, and made to slip up by the fingers. A movable kidney may be felt in the recumbent position in rare instances when it cannot in the erect position. About 40% of the women and 6% of the men who sought relief for nervous disorders had movable kidney. The kidney in its normal condition cannot be felt. The practitioner may mistake a dropped kidney for a tumor, such as a cyst in the head of the pancreas, an enlarged gall bladder, a tongue-shaped lobe of the liver, etc., but let him feel the slip upwards of the "dropped kidney" and he is safe in his diagnosis. There are thousands of medical men who cannot feel a well-marked prolapsed kidney. The diagnosis can only be made by palpation. The abdomen should be uncovered and the patient standing. To feel the kidney, the right hand should be placed on the abdomen, the thumb being under the last rib at the back and the fingers in front below the costal margin. The kidney, if prolapsed, may be felt with slight pressure of the fingers, to be down; but if not, when the patient draws a deep breath the kidney will slip into the fingers and can be slipped back easily. A common mistake is to palpate the abdomen with the flat of the hand; this simply pushes the kidney away and its presence is not detected. The best way is to get the kidney between the thumb and fingers and not press too heavily so that it cannot come down. In the sitting or standing position the kidney comes down more than it does during inspiration when lying down. Either when lying down or standing, the patient should lean forward and try to relax the muscles. The symptoms of movable kidney are legion, hypochondriasis, melancholia, mania, loss of mental power, neurasthenia, headaches, neuralgia, coccydynia, backache, albuminuria, colitis, constipation or diarrhoea, sexual troubles, hematuria, pyuria and hysteria.

Nephropexy is a cure for many of those patients. Many instances were related. More than 4,000 private patients have been examined, upon whom 303 nephropexes have been done. The operation of Billington suits Suckling best, and is a modification of Goelet's the principal feature of which is the hanging up of the kidney to the last or 12th rib by a portion of the fibrous capsule, this again reinforced by two loops of silk worm gut passed beneath the same capsule and tied externally over a pledget of gauze, these latter sutures to be removed in three weeks. The patient is kept in bed a month, and is then supplied with a light

belt made according to a design of the gentlemen. The death rate has been remarkably low.

Both gentlemen quote our own Doctor Longyear in their books, and give him great credit for his advanced ideas. They look upon Detroit as a very favorable field for the advance of their propaganda, particularly since Doctor Longyear has already prepared the soil.

Discussion

Doctor Longyear, opening the discussion, complimented the essayists on the admirable presentation of the subject, and especially upon that part of it relating to the effect of nephroptosis on the nervous system. He believed that more accurate diagnosis of cases of intestinal indigestion and neurasthenia will lead to a recognition of the fact that a great many of them are due to displacements of the kidney and colon with a consequent succeeding gastric, hepatic and duodenal pathology.

The speaker could not agree with the essayists in ignoring everything but the kidney in the pathology relating to nephroptosis and, referring to his own views of the etiology, said that it must be borne in mind that in considering any form of treatment, the whole chain of pathology must be taken into account.

The first link in this chain is the weak hepatocolic ligament; this allows the cecal end of the colon to drop, which drags the loosely anchored kidney out of place through the attachments of the kidney to the bowel by the nephrocolic ligament. The duodenum, being adherent to the fatty capsule of the kidney, is also dragged downward and angulated, causing the gastric and hepatic symptomatology. The colonic function is interfered with because of its angulations. Pains due to dilation of the gut and the acute angulation of the splenic flexure, will be a prominent symptom in such cases. Hence, the speaker believed that any successful operative measure applied to nephroptosis must also have to do with the coloptosis. His own operation of nephrocolopexy does this in a most satisfactory manner, as it raises and fixes the cecal end of the bowel and thus relieves, to a great extent, the angulations, besides giving the cecum a fixed point as it has in its normal attachments by the hepatocolic ligament to facilitate its functionations. Nutrition is increased at once, which the speaker attributed to this fixation of the cecum, as it is thus enabled to perform the "churning" action so necessary to the absorption of the nutritious stream forced into it from the ileum.

Doctor C. B. Burr of Flint, expressed much gratification with the conservative position taken by Doctor Suckling and Mr. Billington, namely, to render unto the surgeon the things that are surgical only. It is important to preserve an open mind in these cases.

He cited several authors, expressing unanimity of opinion that a large proportion of cases of prolapsed kidney gives rise to no important symptoms and are negligible. On the other hand, the same authorities mentioned neurasthenia, digestive disarrangements and reflex disturbances in other cases from this cause. Why the marked difference? In his opinion, it pointed to the validity of Doctor Longyear's theory. In those cases where there is grave damage, there is found either twisting of the ureter or mal-nutrition, impaired elimination and autointoxication due to the accompanying involvement of the alimentary tract. Constipation invariably appears in neurasthenia.

If your operation, directly or indirectly, through nursing, care, prolonged rest in bed and attention to elimination, brings about betterment of digestion and emunctory functions good will result. If not, suspension of the kidney will be found futile in the relief of neurasthenia.

One author says that one in four women has dropped kidney, and it is not strange that Doctor Suckling found 50% of insane women patients thus suffering. Insane patients are practically never in robust general health. Doctor Burr did not consider a depressed patient recovered who walked about from one to another asking what he should do, and full of doubts and misgivings. A considerable number of depressed patients recover without surgery in the period Doctor Suckling specified, namely, three or four months—one must not confound the condition "after" operation with that "on account of" operation. He had known of an interesting case in which Doctor Longyear operated and the patient recovered. He believed the operation an important factor in the result, but not necessarily the sole determining factor. On the other hand, he has now under care a patient with movable kidney, giving rise to no symptoms whatever, and believes the condition of no influence in the etiology of the morbid mental state. He cited an insane case requiring surgical care, in which

he pleaded and urged that this be given, but his opinion was not heeded—she recovered in due time notwithstanding. Doctor Suckling declares that every insane patient should be thoroughly examined. He is right, but a satisfactory examination for displaced kidney is impossible with an actively resisting patient—when to determine so simple a matter as the presence of distended bladder the services of five persons are necessary. Doctor I. gyear's illuminating work has not been, in Doctor Burr's opinion, sufficiently appreciated Such a discovery means much, and the theories arising from it are alluring.

Doctor Carstens said: "There is one great principle involved, which seems to have been forgotten; the kidney is not an abdominal organ. It is behind the peritoneum. It is displaced by severe falls or strains, the symptoms are disturbances of digestion. It can be fixed and the patient cured. Often other conditions exist that are overlooked, and then the patient is not cured. I have challenged everybody to hold the loose kidney in place with the hand (which is the best support) while the patient is coughing or vomiting. If you cannot hold the kidney in place, you can give great relief with a belt to the coexisting general abdominal ptosis. Nobody can attach the kidney in its exact location. You can get near to it and fix it, and keep the ureter straight, and prevent its movements and irritation of the solar plexus, and thus relieve the patient."

Doctor Hitchcock said: "This is one of the many and close relations which neurology has to other fields of medicine and surgery.

"If, as Dr. Suckling has told us, in his address and in his book, this surgical lesion may cause chronic digestive disturbances, even dilation of the stomach, flatulence and pain after food, the kidney dragging on the duodenum and upper part of the ascending colon, unusual fatigue, palpitation, vertigo, epigastric pain, irritability of the bladder, pain in the region of the appendix and of the ovary, the severe pains seen in Dietl's crises, dysmenorrhea, ovaritis and salpingitis, how could it be possible that the nervous system should escape? What other sequel could be expected than many and varied nervous symptoms, the nervousness, restlessness, insomnia and irritability so often here found? And it is not a far cry to the neurasthenia, hysteria, epilepsy and even insanity (often of the manic-depressive type), which Dr. Suckling tells us, is due to a displaced kidney, and cured by its restoration to its normal position.

"It is proper, however, to sound a note of conservatism in relation to the cure of insanity, for we have seen the failure of the pelvic surgeon to relieve more than a very few cases of mental disease, and, while the insane with displaced kidneys are entitled to just the same surgical relief as are those not insane, he will be doomed to disappointment who looks for the cure of any large percentage of insane cases by the operation here described, even when performed by so competent and careful a surgeon as Mr. Billington, whose remarks we have listened to with great pleasure."

Doctors Jennings, Richard R. Smith of Grand Rapids, Kidner and Schenck also discussed the papers of the evening. The writer is unable to present their discussions because of failure on their part to supply him with abstracts of their remarks.

At the General Meeting on October 30, 1911, Dr. Frederick C. Kidner read a paper, illustrated with the stereopticon, on "Backache."

In the absence of the chairman for the evening, President Walker, the Vice-President, B. R. Schenck, took the chair. Doctor J. E. Gleason was appointed by the chair to act as temporary Secretary in the absence of Secretary Jamieson, whose illness bids fair to keep him from us for some time yet.

Doctor F. B. Walker reported two successful operations upon very young infants, one a child 5 months, 3 days of age, upon whom an operation for umbilical hernia was done, and the other child 7 weeks, 1 day of age, upon whom an umbilical hernia was corrected, and an operation for right-sided inguinal hernia, together with the removal of the appendix through the same opening, was done.

Doctor Collins, as chairman of a committee upon automobile insignia, again brought up the subject. He presented three designs. Upon unanimous vote a red shield-shaped design with a white Greek cross outlined in black upon it, was chosen as the insignia for the automobiles of the members of this Society.

Doctor C. W. Hitchcock said he was authorized by the Detroit Society of Psychiatry and Neurology to continue the subscription to the Journals formerly subscribed for by that Society as their contribution towards the library.

Some interesting remarks were made by Doc-

tors Collins, Spitzley and Hanna, bearing upon the American Automobile League and their peculiar methods of doing business. They do not recommend that others become members, at least upon the same basis that they did.

Seventy-four members were present.

Backache

By Dr. Frederick C. Kidner.

(Abstract):

Doctor Kidner took up the discussion of pain in the back, occurring in the lumbar and sacral regions. He spoke of the necessity of accurate diagnosis of these cases, which, so frequently, are chronic causes of actual disability.

It is not fair to lump all these cases under such diagnosis as "lumbago," "rheumatism" or "kidney trouble." Most careful search should always be made for a cause of the pain, in order that the patients may be intelligently treated and not, because unrelieved, forced to go to the osteopath or the chiropractor.

In all such cases it is necessary to rule out rectal or abdominal tumors or inflammations, organic nerve disease, fractures or tuberculosis, pelvic troubles, or other extraneous causes. After the exclusion of such causes, we are left with several groups of cases of back pain, where no cause for the trouble can be found by ordinary methods of diagnosis. Typical examples of these groups were described.

Dr. Kidner then took up the X-Ray as an additional means of diagnosis, and showed a number of steriopticon slides made from plates of actual cases. Stress was laid on the importance, as a causative factor, of congenital malformations of the fifth lumbar, and first two sacral segments of the spinal column.

These, it seems probable, under the influence of sudden unusual strains, so change their relations to each other as to act as powerful levers, to pry the sacro-iliac or lumbo-sacral joints out of place and thus cause strain and pain.

Several plates were shown, which did not show malformations, but did show bad position, and change in the normal back curves, as well as one or two with sacral joint displacements.

Treatment of these cases must be based on the findings. Almost all need rest for a time, secured by various forms of apparatus. This must always be supplemented, if a cure is to be obtained, by properly selected exercises, applicable to each separate case. The object of these exercises is so to increase the tone of muscles and ligaments, that they may resist the tendencies of the bony abnormalities.

Discussion

In discussing this paper Doctor W. E. Blodgett said:

"This subject is closely related to the subject of last meeting, falling kidney, because it is dependent fundamentally on the same cause: incomplete adaptation of the human species to upright posture on the hind legs. This incomplete adaptation accounts both for the curse pronounced upon Eve, "In sorrow thou shalt bring forth children," as well as for static troubles with pelvic bones, in the first case owing to undue tightness of the pelvic outlet, and in the latter to undue looseness.

"The subject is related to gynecology as well as obstetrics. Much of the backache in pregnancy, and in supposed disorder of the pelvic viscera, can be successfully treated by support and intelligent care of the sacro-iliac and neighboring joints.

"This care amounts to this: first diagnosis of pelvic joint strain by characteristic pain, tenderness over a sacro-iliac, exclusion of other causes, and relief by adhesive strapping; second, support of the bony pelvis, usually by a firm belt held by perineal straps a little lower than the anterior spines, and then measures such as posture, hygiene and muscle training, to make it possible to discontinue the belt without the return of the backache. This may be regarded as the now standard treatment of routine cases of this kind, but obstinate cases turn up, and the splendid study that Doctor Kidner has made throws light and hope upon these obstinate cases."

Doctor C. W. Hitchcock said:

"Doctor Inglis, in a previous discussion not inaptly referred to backache as headache in the back, and it is, perhaps, well to recall that just as within the cranium the meninges are the sensitive structures, so doubtless down the back, these lesions which in any way affect the spinal meninges, may be productive of pain, if the source be from within the spinal canal. Without the spinal canal, the tough ligamentous structures, which support the spine and bind the vertebrae in position and the sacrum to the ilium and so subject, naturally, to various sorts of strains, are, from the very nature of their structure, slow of repair, and so liable to the occurrence of repeated strains that this

interferes with such repair process as might already have been set up.

"It is interesting to note that Hilton, in his classic, "Rest and Pain," the first edition of which bears date of 1876, refers to cases of sacro-iliac disease and to the importance of rest as essential to a cure.

"Since Doctor Kidner confines himself largely to the lumbar spine, it is interesting to note the various kinds of pains attributed to this region: lumbago (traumatic, gouty and rheumatic), lumbar neuralgia, the pains of debility, of fatigue, and even of abdominal aneurism. I have personal knowledge of a hernia producing lumbar pain for sometime before hernia was discovered, and its proper retention proved the remedy for the pain. Certainly, there are pains other than surgical referred to this region, and I believe that the pains of fatigue and neurasthenia which find expression in this region are actual, and are to be differentiated from those due to surgical and organic changes of structure."

The writer is unable to present Doctors Hickey and Spitzley's discussions because of their failure to supply him with abstracts as requested.

THE NURSES' CENTRAL DIRECTORY

Mrs. Effie M. Moore, Registar of the Nurses' Central Directory, has furnished some interesting data, bearing on the growth of the Directory in Detroit.

The membership has increased since January 1st, 1911, from 150 to 280, or 80%. The average number of calls per month has been 147, against 106 of last year, or an increase of not quite 30%.

The calls for nurses have not increased in proportion to the increase in membership, which means an average waiting list of 50 nurses.

This is discouraging, especially for the nurse who waits from three to four weeks for a case, as she necessarily must, with the present daily average of calls the Directory is now receiving.

The Wayne County Medical Society invited the nurses to move the office of their Directory into our building, it is, therefore, incumbent upon our members to give the "Nurses' Central Directory" all their calls for nurses' and thus show our appreciation of the benefits to the Society, of having this institution with us.

There are now available and subject to call—by this we mean unemployed—about 100 nurses.

For his own sake, for the sake of the Wayne County Medical Society, and for the support and encouragement of the Nurses' Central Directory, we ask that every member call for the service of every nurse through this directory.

It may not be generally understood by the physician that the Registrar will call his nurse for him. If he has a preference, she will call that particular nurse if she is disengaged; so instead of asking for the telephone number of a nurse the physician should give the name of the nurse desired to the Registrar who will call her.

In this way, and in this way only, will the nurse feel that it is to her interest to register with us. Without the support of every member of the Society our efforts to secure an efficient service for our members may fail.

NOTICE

Through the kindness and courtesy of Mr. Joseph Boyer, the members of the Wayne County Medical Society may leave their autos on the vacant lot at the northeast corner of Woodward Ave. and High St. A runway will be placed on Woodward Ave., near the north side of the lot, to facilitate crossing the curb. On meeting nights a uniformed policeman will be on hand to direct the placing of autos and also to guard them.

ROLLAND PARMETER, *Reporter.*

DE TROIT OTO-LARYNGOLOGICAL SOCIETY

The Detroit Oto-Laryngological Society met Tuesday, October 17, at the Wayne County Medical Building.

Doctor Carl D. Camp, of Ann Arbor, addressed the Society concerning the disturbances of the functions of the ear, nose and throat in nervous diseases, giving a complete review of the diseases in which such disturbances occur. Special stress was laid upon the affections in tabes dorsalis and in hysteria. The occurrence of deafness in tabes dorsalis appears not to be considered sufficiently as one of the early symptoms. The great field of

hysterical affections was illuminated and, also a number of other functional and organic nervous diseases were reviewed in their relation to the ear, nose and throat. The address was generally discussed.

Doctor Mercer reported a tonsillectomy in a woman seventy-four years of age. The operation had become a necessity on account of the unbearable mechanical disturbances. The result was very successful.

A dinner preceded the meeting.—E. A.

IMPROVEMENTS AND ADDITIONS AT THE GRACE HOSPITAL

In the completion and opening to use of the new addition of the Grace Hospital, the Trustees and Superintendent have done quite a good deal to relieve the Hospital situation of Detroit. The new building is thoroughly modern, being constructed of reinforced concrete and brick, and is absolutely fireproof.

The operating room suite occupies the entire third floor, a space of 5,800 square feet. This includes the X-Ray equipment with its dark rooms, the plaster room, surgical room, anaesthetizing and recovery rooms. All the rooms are beautifully lighted, and the arrangement actually shows the result of study.

Upon the second floor of the new pavilion the entire arrangement is for private room patients. The rooms are beautifully and sensibly furnished. The utility rooms on this floor are modern to the minute, a balcony provides for fresh air therapeutics.

The new small wards are located on the first floor and contain four to seven beds each. This whole equipment is delightfully new and modern.

The Trustees and Superintendent Babcock are, indeed, to be congratulated upon the showing they have made in improvement and addition to the plant with their $125,000.

NEWS

Dr. E. B. Smith and Miss Josephine Swickard, both of Detroit, were married Nov. 6.

Dr. R. E. Scafford, Bay City, is investigating some methods of laboratory technique at Detroit, and other points.

Dr. Edward Goodwin, Bay City, attended the International Municipal Congress, which met in Chicago the last three days in September.

Dr. R. C. Jamieson, Secretary of the Wayne County Medical Society, has been ill with typhoid fever. He is reported to be progressing favorably.

With the proceeds of the last tag day, about $2,600, Mercy Hospital, Bay City, will complete the new wing, and have accommodations for about 100 patients.

Dr. Harold Wilson has established a private surgical clinic at the Grace Hospital, Detroit, for the operative treatment of the ear, eye, nose and throat.

The Secretary of the State board of Health, Doctor Robt. L. Dixon, has sent a letter to all Health Officers and School Superintendents, urging that every schoolroom in the state should be thoroughly disinfected each month of the school year, particularly during the winter months when the doors and windows are likely to be kept closed. Churches, public halls, theaters, etc., should also receive an occasional disinfection.

Dr. C. O. Dedrick, of DeTour, and Mr. W. H. Dunham of Drummond, were married at the Soo recently, by Rev. Dr. S. W. Horner. Dr. and Mrs. James Oswald were their attendants. Mr. Dunham is of the firm of Dunham & King of Drummond, who have been in the lumbering business there for the past three years. Mrs. Dunham is the only physician in De Tour and has an extensive practice in the community. She will still continue her work in DeTour.

COMMUNICATIONS

*DEAR SIR:

Of all branches of medical practice, it is generally admitted, I think, by those who have investigated the subject, that young physicians are least well prepared in Obstetrics, and that lack of adequate preparation in this branch is productive of more harm to the community than a deficiency in any other.

The large Maternity hospitals of the country receive every year a number of unfortunate

*Copy of letter sent to Secretaries of the State Examining Boards.

women in child-birth, fatally injured by inadequate or unskillful medical attendance, and the infant is usually destroyed with its mother. These tragedies, therefore, must be comparatively frequent throughout the country.

Our medical schools have recognized, of late, their defects in material and clinical equipment for teaching this branch, and are earnestly endeavoring to remedy them.

The best schools of the country demand of their students personal attendance on a certain number of confinement cases before graduation, although the number is small compared with the requirements of Europe, where forty to fifty cases are required before a candidate is licensed to practice.

A committee of the American Gynecological Society last year recommended that, at least, six cases should be attended, under supervision, by each undergraduate.

In view of these facts, would you kindly submit to your board the inquiry whether the time has not arrived to act in accord with the practice of the older civilized states of the world in demanding of an applicant for a license to practice medicine, evidence of practical training in Obstetrics?

Very respectfully,

BARTON COOK HIRST, M. D.

Professor of Obstetrics in the University of Pennsylvania.

Howard City, Mich., Nov. 3rd, 1911.

WILFRID HAUGHEY, A. M., M. D.

Battle Creek, Mich.

DEAR DOCTOR:

Your edtorial on "Antitoxin, and Sudden Death Following its Injection," has attracted my attention. In defense of Antitoxin I desire to cite a case which was under my care.

Mr. M., a young man about 19 years of age, a pronounced asthmatic subject, was taken sick, Feb. 11, 1904, with typical pneumonic symptoms, and I diagnosed a deep seated pneumonia in the left lower lobe. On Feb. 21st, I discovered diphtheritic membrane in the nasal passage, also in the pharyngeal vault; on Feb. 22nd he was given 1000 units, on Feb. 23rd, 2000 units, and on Feb, 25th 1000 units, never at any time was the respiratory center affected. I have used Diphtheria Antitoxin ever since its advent, upon patients of all ages, with never an untoward symptom. It is my belief, that when the facts are finally deduced, it will be found that the fault lies in a vein having been penetrated, and, consequently, the system is overwhelmed with the Antitoxin. My favorite sight for the injection is the scapular region.

Yours truly,

J. ODELL NELSON,

DR. WILFRID HAUGHEY, *Secretary*,
Michigan State Medical Society,
Battle Creek, Michigan.

DEAR DOCTOR:

As I understand it, the fees to be collected for 1912 remain the same as in 1911. Am I correct?

I believe it an error, to baby physicians in sending the JOURNAL a minute longer than the expiration of the paid subscription. There is no sensible reason why the JOURNAL should be continued longer, and it ought to be stopped, just as other magazines are stopped. The present arrangement makes a lot of work for the secretaries, and only teaches physicians to be more slack, and that is useless, for physicians are the biggest fools in business matters without any stimulation in that direction. While I am secretary our men will pay promptly, or be reported off the list.

Yours truly,

(Signed by a County Secretary.)

BOOK NOTICES

Food Values, Practical tables for use in private practice and public institutions by Edwin A. Locke, A. M., M. D. New York and London. D. Appleton and Co., 1911. $1.25 net.

This book contains a complete introduction, covering classification of Food Stuffs, Uses of Foods in the Body, Method of Calculating Food Values, Food Requirements of the Body in Health, The Body's Reserve, etc., followed by extensive tables of equivalent weights and measures, Prepared Foods, Alcoholic Beverages, and the Average Chemical Composition of American Foods. The tables of food values give the total calories, and number of calories per 100 Grams. It is a valuable reference book.

The Treatment of Fractures: With notes upon a few common dislocations. By Chas. L. Scudder, M. D., Surgeon to the Massachusetts General Hospital. Seventh Edition, Revised and enlarged. Octavo volume of 708 pages, with 990 original illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Polished Buckram, $6.00 net; Half Morrocco, $7.50 net.

The six preceding editions of Scudder's Treatment of Fractures have met with such wide favor as to associate the name of Scudder, in the minds of medical men, with frac-

tures and their proper treatment. The Seventh Edition is a continuation of the excellent presentation of this subject in the straightforward business-like manner, peculiar to Scudder.

In view of the fact that one-half of all cases where mal-practice or damage suits are brought against doctors, arise from the treatment of fractures,we must accept one of two conclusions: Either doctors do not make the proper effort to thoroughly apply the correct principles involved in the treatment of fractures or the correct principles are not perfectly understood. We decline to entertain the first hypothesis. The amount of instruction the student received while in college, coupled with what he can draw from Systems of General Surgery are just enough to secure about fifty per cent of good results.

Generalization in fractures belongs to the past. Special works like this of Scudder's are none too explicit. Even Scudder could greatly enhance the value of his teaching (which all acknowledge is of the highest order) by putting out a series of Monograms on the important special fractures.

A Pocket Medical Dictionary by George M. Gould, A. M., M. D., Sixth Edition Revised and enlarged, 34,000 words. Philadelphia: P. Blackiston's Son & Co., 1911. $1.00 net.

This little volume of over a thousand pages gives an abundant value for the money, containing clear definition and pronunciation of 34,-613 words. It contains 4,500 more words than the former edition. The dose tables, and tables of muscles, arteries, bacteria, etc. are valuable.

Dorland's American Illustrated Medical Dictionary. A new and complete dictionary, of terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Veterinary Medicine, Nursing, Biology, and kindred branches; with new and elaborate tables. Sixth Revised Edition. Edited by W. A. Newman Dorland, M. D., Large octavo of 986 pages, with 323 illustrations, 119 in colors. Philadelphia and London: W. B. Saunders Company, 1911. Flexible Leather, $4.50, net; thumb indexed, $5.00 net.

As an indication of the enormous advance of science and scientific terminology during the past two years over 7000 new words have been added to this edition. The type is legible, the mechanical work excellent, besides the technical value of the editor's work. Every word is given its definition—a definition that defines in the fewest possible words. In some dictionaries hundreds of words are not defined at all, referring the reader to some other source for the information he needs at once. A new and valuable feature, one we have not seen elsewhere is this: Dorland gives the full name, nationality, specialty, and dates of birth and death of men whose names have been given to diseases, structures, procedures, etc. Also short biographic sketches of the "fathers" of medicine.

The Parasitic Amoebae of Man, by Charles F. Craig, M. D., Captain Med. Corps, U. S. A. Published with the Authority of the Surgeon General of the U. S. Army. Philadelphia and London: J. B. Lippincott Company, 1911. $2.50 net.

This is a very interesting and very valuable monogroph upon a subject with a dearth of English literature. A historical sketch of the whole subject is followed by chapters on Morphology and Biology, classification and nomenclature, technique of examination and study. The amoebae of the intestinal tract are then classified and described, followed by the amoebae of mouth, genito-urinary tract, exudates, and abscesses.

This book must be of great service to medical men in the tropics, military service or public health service, as well as a valuable addition to any library.

A Manual of Practice of Medicine. By A. A. Stevens A. M., M. D., Professor of Therapeutics and Clinical Medicine in the Woman's Medical College of Pennsylvania. Ninth Edition, Revised. 12mo. of 573 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Flexible Leather, $2.50 net.

The many diseases treated in this manual are grouped under systems, as Diseases of the Digestive System, Diseases of the Kidneys, Diseases of the Blood and Ductless glands, Diseases of the Circulatory System, Diseases of the Respiratory System, etc. Each disease is handled in a definite way. Definition, Etiology, Pathology, Symptoms, Diagnosis, Prognosis and Treatment. Conciseness, clearness and brevity are sought, giving therewith the essential facts. The book is handy to carry, easy to refer to, and contains sufficient of each subject to act as a hasty reference work for a busy man

Collected Papers by the staff of St. Mary's Hospital (Mayo Clinic) for 1910. Octavo of 633 pages, illustrated. Philadelphia and London; W. B. Saunders Company, 1911. Cloth $5.50 net.

This second volume of the Mayo Clinic will, no doubt, meet with the same general favor as did its predecessor of 1909. These books are of enormous value. They contain the papers by this staff for the current year. Their appearance annually provides an opportunity to obtain, at slight cost, an almost perfect report of the work done at this most progressive surgical clinic, together with summaries, conclusions, and much technique.

The indexing is so arranged as to enable one to look up a particular point in the shortest space of time.

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